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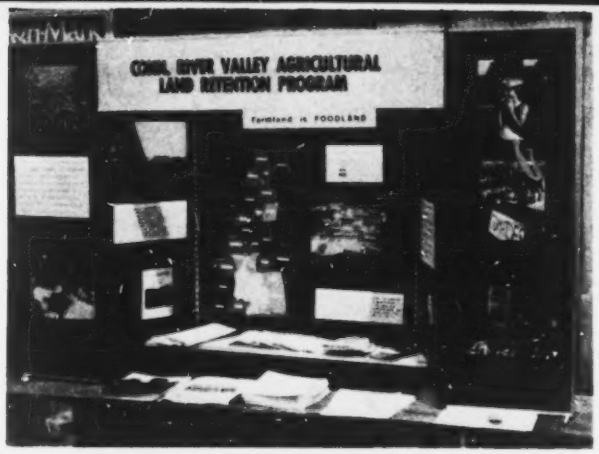
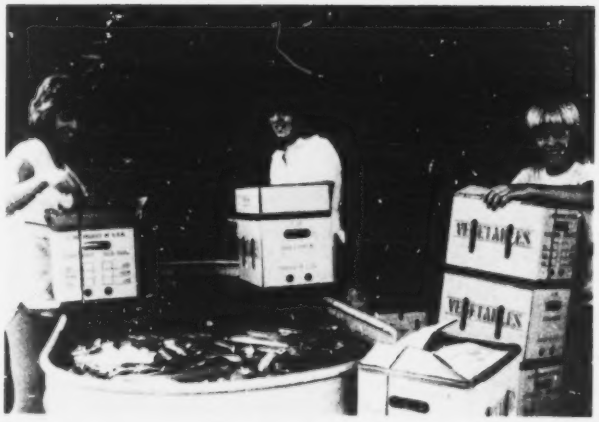
Massachusetts Agriculture 1984

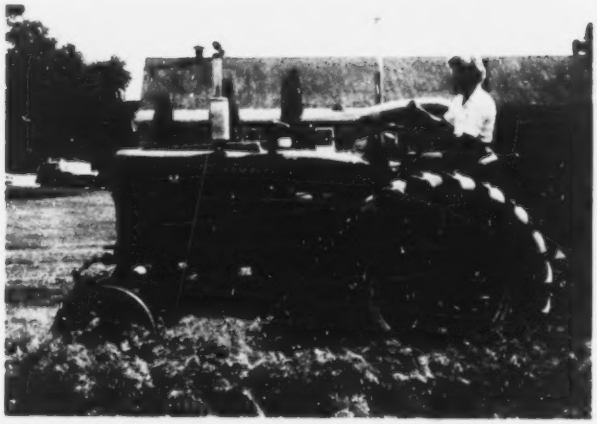
Michael S. Dukakis,
Governor

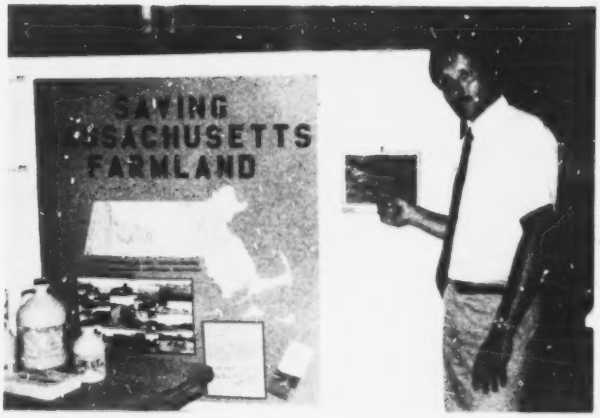
James S. Hoyte,
Secretary of Environmental Affairs

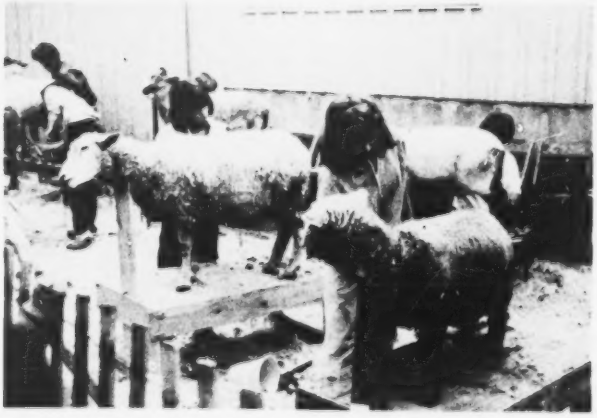
Frederic Winthrop, Jr.,
Commissioner Food and Agriculture


CONN. RIVER VALLEY AGRICULTURAL
LAND RETENTION PROGRAM






SAVING
FARMLAND



The Commonwealth of Massachusetts

Department of Food and Agriculture

Leverett Saltonstall Building, Government Center

100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

The cover of this year's annual report depicts "Massachusetts Agriculture in the Classroom," an exciting new project which was officially launched last Spring with a successful field testing in fifteen schools across the state.

Your Department of Food and Agriculture has called together a statewide committee to help initiate this project and is cooperating with a wide variety of agencies and individuals to extend it to an additional 125 teachers next year.

The innovative curriculum should help inform young people about farm and food production -- the problems, the accomplishments and the outlook. In addition to providing food for a hungry world, American agriculture and related businesses provide one out of every five jobs and substantially reduce our trade deficit. Yet basic as agriculture is to our daily lives, it is a subject whose importance is rarely understood by students or the general public. This is particularly true in states like Massachusetts where the number of farmers relative to the total population is quite low.

The Department continues to promote local agriculture and its products through press releases to newspapers, radio and television stations. We have also used exhibits to tell our story and assisted commodity groups in the promotion of their products.

Promoting profitability in agriculture is of course the best way to assure that land will remain in production and, along with our farmland preservation programs, market promotion remains a priority. In addition, we continue to fulfill the goals of our regulatory programs to protect the farmer, the environment and the consumer. Particular emphasis has been placed on strenuous enforcement of the pesticide laws and on the promotion of alternative production techniques in an effort to reduce the overall pesticide load on the environment as well as to reduce production costs.

Total cash receipts from farm marketings for 1983 are down from the previous year due largely to a dramatic decline in planted acreage of tobacco. A prolonged drought during the summer of 1983 also caused a decrease in production for some of our vegetable crops.

1984 has generally been a good year for agriculture in Massachusetts, though this past Spring's deluge of rains and flooding will undoubtedly show up on next year's statistics. We are grateful to Governor Dukakis and to the Legislature for their speedy response to the call for funding for the Department's emergency flood relief program.

We hope you will take time to study this report which is my tenth and final one as your Commissioner. I trust that you will call us at the Department of Food and Agriculture if you have any comments or suggestions. It has been a pleasure and an honor to work with the many dedicated agricultural groups, state and federal agencies, individuals and organizations across the state during my term of office. I know you will provide my successor with the same tremendous support that you provided me over the last decade. With best wishes for a bright future.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

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Cover Photos-- "Massachusetts Agriculture in the Classroom"; on front cover, students in Gerry Rosen's class at Horace Mann Laboratory School at Salem State College learn about crops produced in various counties of the state during the classroom testing of the program.

The back cover depicts projects and students of other teachers involved in classroom testing: Mary Ellen Harper, Ware Elementary School; Suzanne Leary, Osterville Elementary School; Helen Nee, Paul A. Dever School, Dorchester; Lillian Tie, Greenfield Middle School; Janet Woodward, Bernardston Elementary School.

MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

FREDERIC WINTHROP, JR., COMMISSIONER

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UNITED STATES DEPARTMENT OF AGRICULTURE

JOHN R. BLOCK, SECRETARY

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NEW ENGLAND CROP AND LIVESTOCK REPORTING SERVICE

6 LOUDON ROAD

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LIVESTOCK HIGHLIGHTS

Massachusetts livestock producers showed variations in inventory numbers and gross income for 1983. Cattle numbers were unchanged, hog numbers decreased while sheep numbers were up by the end of 1983. Gross income was lower during the year for cattle and hogs but higher for sheep.

CATTLE AND CALVES

Cattle and calve inventory for Massachusetts on January 1, 1984 totaled 96,000 head, unchanged from the previous year's record low inventory. This total includes 49,000 milk cows, 8,000 beef cows, 17,000 heifers, 4,000 steers and 18,000 calves. The January 1 inventory value averaged $600 per head giving a total inventory value of $57.6 million, the lowest since 1979. The 1983 calf crop (calves born) was 46,000, 4 percent less than the previous year. Marketings during 1983 totaled 39,000 head of cattle and calves with a total live weight of 16.5 million pounds.

HOGS AND PIGS

Massachusetts hog producers had 42,000 hogs on hand December 1, 1983, 9 percent less than the previous year and the lowest on record. Value per head at $79.00, was $9.50 below 1982. The resulting total hog value on December 1, 1983 was $3.3 million, the lowest since 1976.

Hog marketings during 1983 totaled 13.9 million pounds at a price of $42.00 per cwt. This resulted in a gross of $3.3 million to hog producers, 18 percent less than 1982 and the lowest since 1979.

SHEEP, LAMBS AND WOOL PRODUCTION

On Janaury 1, 1984, there were 8,400 sheep and lambs on Massachusetts farms, 1,700 more than a year earlier. With an average value of $103.00 per head, total inventory value was $865,000, 22 percent above the previous year's value. Gross income from sheep and lambs sold, including value of home consumption, was $220,000, 32 percent below the 1982 income. This large drop resulted mostly from the small number of sheep marketed, although prices were slightly lower in 1983. Wool production during 1983 totaled 56,000 pounds. The average price of 63 cents per pound is the lowest per pound price since 1976.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS JANUARY 1, MASSACHUSETTS, 1973-1984

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000	Dollars	1,000 Dollars
1973	111	335	37,185
1974	105	420	44,100
1975	107	315	33,705
1976	107	345	36,915
1977	104	380	39,520
1978	99	415	41,085
1979	102	560	57,120
1980	104	685	71,240
1981	104	785	81,640
1982	98	800	78,400
1983	96	715	68,640
1984	96	600	57,600

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1973-1984

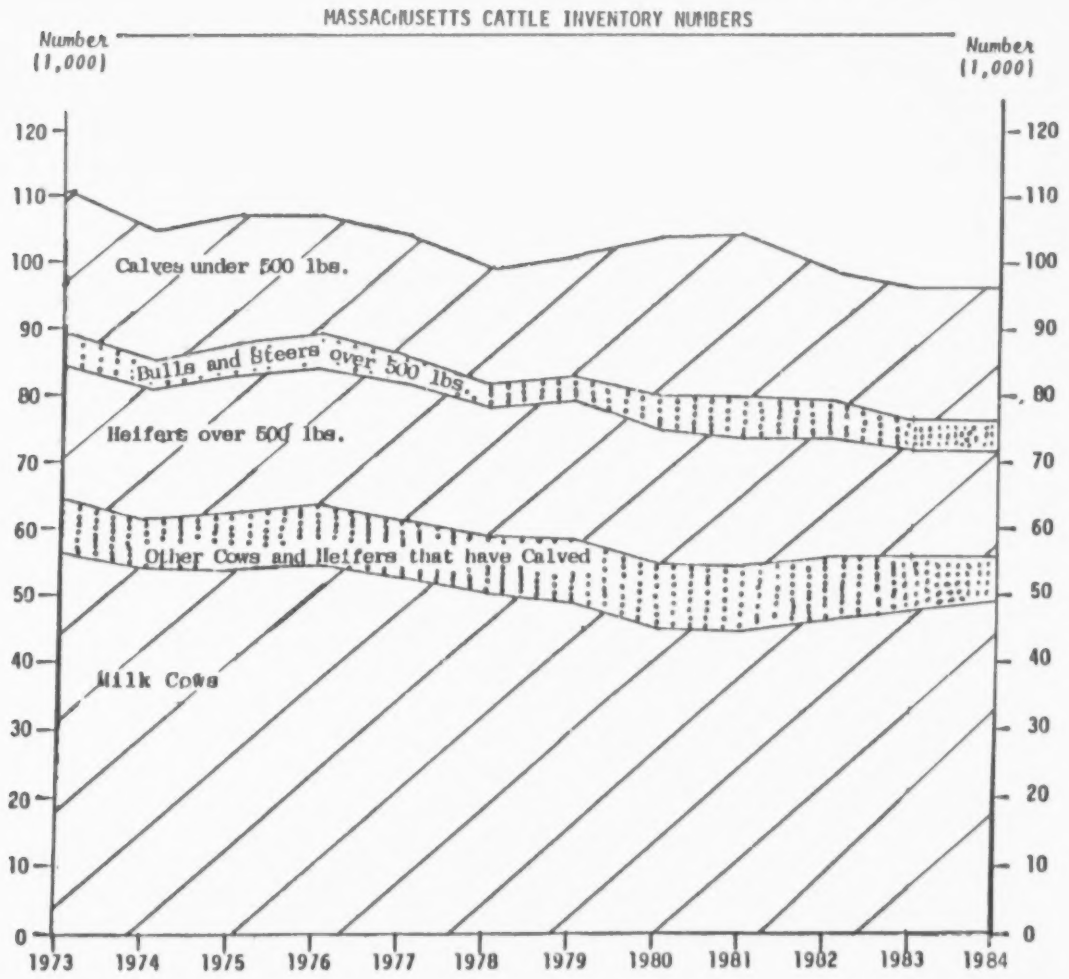
YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
		BEEF	MILK	REPLACEMENTS		OTHER			
				BEEF COW	MILK COW				
					1,000				
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	104	10	45	4	14	1	4	2	24
1982	98	10	47	3	13	1	3	2	19
1983	96	9	48	1	15	1	2	2	18
1984	96	8	49	2	14	1	2	2	18

CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	28,875	40,115	33.50	44.00	576	14,293
1974	30,405	32,845	27.50	28.00	473	9,516
1975	35,060	27,812	22.40	24.20	925	7,217
1976	33,620	40,230	26.00	28.50	559	11,071
1977	33,240	40,790	26.20	38.20	676	11,591
1978	27,080	26,560	41.90	57.00	1,441	12,846
1979	21,340	21,754	57.00	76.00	1,520	14,248
1980	25,430	23,300	55.00	71.00	1,656	14,673
1981	24,770	24,730	50.00	63.00	1,290	13,984
1982	17,820	16,320	45.00	57.00	1,548	9,141
1983	18,370	16,500	42.00	52.00	1,483	8,666

CATTLE AND CALVES: INVENTORY, SUPPLY AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE & CALVES	CATTLE	CALVES
				1,000				
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	21	14	1	3	7
1981	104	47	1	23	23	1	2	5
1982	98	48	1	17	23	1	3	7
1983	96	46	1	16	23	1	2	5



HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, MASSACHUSETTS, 1972-1983

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		Head		Dollars	1,000 Dollars
1972	9,000	54,000	63,000	37.50	2,363
1973	10,000	50,000	60,000	62.50	3,750
1974	8,000	43,000	51,000	48.00	2,448
1975	8,000	42,000	50,000	64.50	3,225
1976	7,000	43,000	50,000	50.50	2,525
1977	8,000	52,000	60,000	59.50	3,570
1978	8,000	52,000	60,000	76.50	4,590
1979	9,000	51,000	60,000	55.50	3,330
1980	7,000	42,000	49,000	74.50	3,651
1981	6,000	43,000	49,000	79.50	3,896
1982	7,000	39,000	46,000	88.50	4,071
1983	7,000	35,000	42,000	79.00	3,318

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1973-1983

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS / LITTER	PIGS SAVED	SOWS	PIGS / LITTER	PIGS SAVED	
			Head				
1973	7,000	6.0	42,000	7,100	6.0	43,000	85,000
1974	7,000	6.0	42,000	6,800	6.0	41,000	83,000
1975	7,000	6.2	43,000	6,800	5.7	39,000	82,000
1976	6,600	6.8	45,000	5,700	6.5	37,000	82,000
1977	5,000	6.9	35,000	6,500	6.6	43,000	78,000
1978	5,000	7.2	36,000	6,000	6.8	41,000	77,000
1979	6,000	6.5	39,000	6,500	6.5	42,000	81,000
1980	4,000	7.4	30,000	6,000	5.8	35,000	65,000
1981	4,000	6.6	26,000	5,000	6.4	32,000	58,000
1982	3,700	7.5	28,000	4,500	7.6	34,000	62,000
1983	4,900	6.5	32,000	4,000	7.0	28,000	60,000

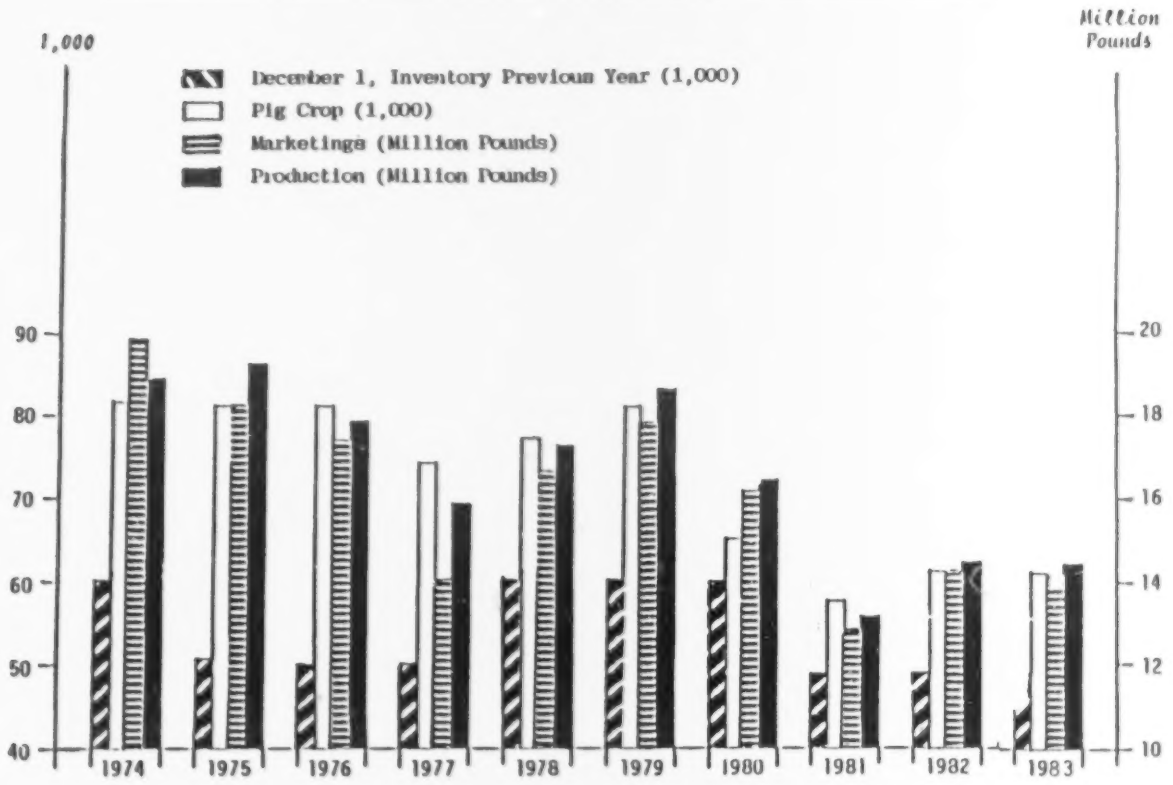
HOGS: INVENTORY NUMBER, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ON HAND DEC 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
			Head			
1973	63,000	42,000	43,000	80,000	1,000	7,000
1974	60,000	42,000	41,000	86,000	1,000	5,000
1975	51,000	43,000	39,000	78,000	1,000	4,000
1976	50,000	45,000	37,000	75,000	1,000	6,000
1977	50,000	35,000	43,000	61,000	1,000	6,000
1978	60,000	36,000	41,000	71,000	1,000	5,000
1979	60,000	39,000	42,000	76,000	1,000	4,000
1980	60,000	30,000	35,000	71,000	2,000	3,000
1981	49,000	26,000	32,000	55,000	1,000	2,000
1982	49,000	28,000	34,000	61,000	1,000	3,000
1983	46,000	32,000	28,000	59,000	2,000	3,000

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1973	18,862	18,068	37.00	171	6,856
1974	18,764	19,910	33.00	254	6,824
1975	19,100	18,260	45.00	347	8,564
1976	17,891	17,378	45.00	354	8,174
1977	15,832	14,063	37.00	291	5,494
1978	17,211	16,640	45.00	304	7,792
1979	18,640	17,820	44.00	297	8,138
1980	16,412	16,185	37.00	500	6,488
1981	13,267	12,825	43.00	290	5,805
1982	14,547	14,380	54.00	316	8,081
1983	14,451	13,900	42.00	340	6,178

TREND IN DECEMBER 1 INVENTORY, PIG CROP, MARKETINGS AND PRODUCTION, MASSACHUSETTS, 1974-1983



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, MASSACHUSETTS, 1973-1984

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP & LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
			Head				Dollars	1,000 Dollars
1973	1,400	1,000	400	5,500	600	7,500	28.00	210
1974	1,400	1,000	400	5,000	500	6,900	40.00	276
1975	1,500	1,100	400	5,100	400	7,000	46.50	326
1976	1,500	1,100	400	5,300	400	7,200	46.00	331
1977	1,400	1,000	400	4,900	400	6,700	48.00	322
1978	1,600	1,100	500	4,700	500	6,800	53.50	364
1979	1,300	1,000	300	4,900	500	6,700	63.00	422
1980	1,600	1,200	400	5,000	500	7,100	78.50	557
1981	1,600	1,200	400	5,100	500	7,200	88.00	634
1982	1,900	1,400	500	5,600	500	8,000	109.00	872
1983	1,400	1,100	300	4,800	500	6,700	106.00	710
1984	1,700	1,300	400	6,000	700	8,400	103.00	865

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ALL SHEEP AND LAMBS ON HAND JAN. 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP & LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
			Head			
1973	7,500	5,300	1,500	2,900	400	1,100
1974	6,900	5,200	1,200	2,600	200	1,100
1975	7,000	5,500	900	2,900	400	1,100
1976	7,200	5,600	1,500	3,300	300	1,000
1977	6,700	5,700	1,100	3,100	400	1,000
1978	6,800	5,300	1,000	2,900	500	1,000
1979	6,700	5,100	800	2,500	500	900
1980	7,100	5,600	1,200	2,700	600	1,000
1981	7,200	6,800	700	3,300	800	1,200
1982	8,000	5,600	2,500	3,300	300	800
1983	6,700	6,000	200	3,300	400	900

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	366	395	14.00	41.00	21	133
1974	349	318	17.00	37.00	10	101
1975	372	296	26.00	68.00	35	193
1976	382	393	28.00	72.00	35	244
1977	431	357	29.00	72.00	46	244
1978	406	329	38.00	84.00	67	282
1979	382	246	39.00	85.00	82	245
1980	428	300	42.00	77.00	89	268
1981	423	207	45.00	100.00	127	286
1982	377	450	41.00	94.00	68	325
1983	413	188	36.00	93.00	59	220

WOOL: PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	Head	Pounds	1,000 Pounds	Cents	1,000 Dollars
1973	6,900	7.2	50	71	36
1974	6,600	7.4	49	62	30
1975	6,400	7.2	46	31	14
1976	6,700	6.9	46	60	28
1977	6,200	7.1	44	78	34
1978	6,300	6.8	43	74	32
1979	6,600	6.8	45	84	38
1980	6,800	6.9	47	88	41
1981	7,000	7.0	49	90	44
1982	7,600	6.8	52	66	34
1983	8,200	6.8	56	63	35

MINK: PRODUCTION AND FEMALES BRED TO PRODUCE KITS, MASSACHUSETTS, 1978 - 1984 1/

COLOR CLASS	PELTS PRODUCED					FEMALES BRED TO PRODUCE KITS				
	1978	1979	1980	1982	1983	1979	1980	1981	1983	1984
Standard	1,500	1,600	1,200	1,700	1,400	2/	1,500	660	500	560
Demi-Buff	5,400	4,900	5,200	4,000	3,900	2,600	1,500	1,000	1,200	2/
Pastel	6,500	5,400	6,300	1,900	2,300	800	730	1,000	360	590
Pearl	2/	2,500	2,300	2,800	2/	690	700	700	880	830
Others	6,600	3,600	2,400	2,700	4,900	1,310	970	540	760	2,220
TOTAL	20,000	18,000	17,400	13,100	12,500	5,400	5,200	3,900	3,700	4,200

1/ Estimates not available for 1981 production and 1982 Females bred to produce Kits.
2/ Included in others to avoid disclosing individual operations.

DAIRY HIGHLIGHTS

MILK PRODUCTION

Massachusetts dairy herds produced 611 million pounds of milk during 1983, 1 percent more than during the previous year and the largest annual production since 1972. With the average number of cows unchanged from 1982, the production increase was the result of a record high rate of 13,000 pounds per cow in 1983. Quarterly production totals followed the normal seasonal pattern.

MILK PRODUCTION AND PRICE

Milk marketed in 1983, at 605 million pounds, was also the largest amount marketed since 1972. Increased marketings would be expected with the production increase. However, a 2 million pound decrease in milk used on farms where produced is also a contributing factor. Home use has shown a moderate downward trend over the years, but has been more consistent during the 1980's.

The average price received for milk marketed during 1983 was $14.60 per cwt., 10 cents above the 1982 average price. With an increase in both price and volume marketed, the 1983 cash receipts for milk totaled a record $91.3 million.

MANUFACTURED DAIRY PRODUCTS

With milk production and marketings both showing increases, the manufacture of dairy products continues an important role in the Massachusetts dairy industry. The production of ice cream in the Commonwealth during 1983 totaled 44.5 million gallons, slightly above the previous year and the most produced since 1977. Milk sherbet production increased to 2.3 million gallons, 5 percent more than during 1982. Ice milk production for 1983 shows a large increase from the previous year and approaches production levels of the late 1970's.

Cheese production (excluding cottage cheese) in Massachusetts totaled 12.6 million pounds, well above the 1982 total and the highest of record.

MILK COWS: AVERAGE NUMBER ON FARMS, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			1,000 Head		
1973	56	55	54	54	55
1974	54	54	54	54	54
1975	55	54	54	55	55
1976	55	54	53	53	54
1977	52	51	51	51	51
1978	50	48	48	49	49
1979	49	48	47	46	48
1980	46	46	46	46	46
1981	45	45	46	46	46
1982	47	47	46	47	47
1983	48	46	46	48	47

MILK PRODUCTION: AVERAGE PER COW, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Pounds		
1973	2,715	2,930	2,610	2,610	10,818
1974	2,705	2,945	2,720	2,610	10,981
1975	2,725	2,960	2,720	2,620	10,927
1976	2,735	2,950	2,760	2,700	11,074
1977	2,850	3,060	2,890	2,870	11,706
1978	2,900	3,110	2,920	2,820	11,673
1979	2,920	3,090	2,940	2,980	11,792
1980	3,110	3,240	3,000	3,050	12,391
1981	3,180	3,350	3,090	3,080	12,565
1982	3,190	3,320	3,180	3,185	12,809
1983	3,220	3,430	3,180	3,160	13,000

MILK PRODUCTION, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Million Pounds		
1973	152	161	141	141	595
1974	146	159	147	141	593
1975	150	160	147	144	601
1976	150	159	146	143	598
1977	148	156	147	146	597
1978	145	149	140	138	572
1979	143	148	138	137	566
1980	143	149	138	140	570
1981	143	151	142	142	578
1982	150	156	146	150	602
1983	155	158	146	152	611

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1973-1983

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1973	550	8.22	45,210	15.3	35	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40	5,768	581	9.99	58,018
1975	555	9.65	53,588	15.8	40	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46	6,633	556	13.28	73,833
1980	530	13.70	72,610	14.0	51	7,116	560	14.24	79,726
1981	540	14.60	78,840	13.5	53	7,149	569	15.11	85,989
1982	565	14.50	81,925	13.5	53	7,149	594	15.00	89,074
1983	575	14.60	83,950	14.0	53	7,395	605	15.10	91,345

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1973-1983

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	5	5	10	530	32	562
1979	566	4	6	10	525	31	556
1980	570	4	6	10	530	30	560
1981	578	4	5	9	540	29	569
1982	602	3	5	8	565	29	594
1983	611	2	4	6	575	30	605

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, MASSACHUSETTS, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1973	7.70	7.75	7.55	7.30	7.20	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.55	9.50	9.15	8.95	8.50	8.35	9.05	9.65	10.30	10.80	11.10	11.20	9.65
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	10.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70
1981	14.90	14.70	14.50	14.30	14.00	13.80	14.30	14.60	14.90	15.20	15.00	14.80	14.60
1982	14.90	14.70	14.50	14.20	13.80	13.70	14.20	14.60	14.90	15.00	15.10	14.80	14.50
1983	14.80	14.80	14.40	14.30	13.90	13.80	14.20	14.70	14.90	15.10	15.20	14.60	14.60

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1973-1983

YEAR	AVERAGE NUMBER OF MILK COWS ON FARMS	PRODUCTION					
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		FARM VALUE OF MILK PRODUCED
		MILK	MILKFAT		MILK	MILKFAT	
	1,000	Pounds		Percent	Million Pounds		1,000 Dollars
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	397	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	428	3.67	572	21	68,526
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,391	447	3.61	570	21	81,168
1981	46	12,565	456	3.63	578	21	87,336
1982	47	12,809	466	3.64	602	22	90,300
1983	47	13,000	477	3.67	611	22	92,261

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1973-1983

YEAR	TOTAL CHEESE 1/	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 Pounds	1,000 Gallons		
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992
1981	8,559	43,193	10,173	2,089
1982	9,110	44,444	6,574	2,198
1983	12,643	44,510	9,138	2,297

1/ Excluding cottage cheese.

POULTRY HIGHLIGHTS

EGGS

Massachusetts laying flocks produced 265 million eggs during 1983, 16 percent less than the previous year and the smallest annual egg production since 1929. The average daily rate of lay per 100 birds was a record 68.5 eggs, surpassing the previous high rate of 67.4 eggs set in 1981. Poultrymen received a record high 91 cents per dozen for eggs in 1983, 5 cents above the previous high 86 cents per dozen in 1981. Gross income from egg production in 1983 was $20.1 million, 9 percent less than the gross in 1982.

CHICKENS

The December 1, 1983 inventory of chickens on farms (excluding broilers) totaled 1.4 million birds, 11 percent below a year ago and the lowest of record. A break down of the December 1 inventory indicates that a small increase in pullets of laying age was more than offset by the large decrease in hens. In the younger birds, a 3,000 increase in other birds was insignificant compared to the large decline in young pullets. Total value of all chickens on hand December 1, 1983 was $3.4 million, 14 percent less than a year earlier. Poultrymen marketed 5.4 million pounds of poultry during 1983 at 10.5 cents per pound.

TURKEYS

Massachusetts farmers raised 160,000 turkeys during 1983, 15,000 more than a year earlier and the most since 1974. There were 3.3 million pounds liveweight from the turkeys raised. The price per pound, at 84 cents, was 7 cents higher than received in 1982 and increased the value of production to $2.8 million for 1983.

POULTRY: INVENTORY BY CLASS AND VALUE, MASSACHUSETTS, DECEMBER 1, 1972-1983

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE PER HEAD	TOTAL VALUE
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS				
	1,000						Dollars	1,000 Dollars
1972	729	1,069	228	221	32	2,279	1.40	3,191
1973	896	807	251	255	31	2,240	2.00	4,480
1974	772	939	224	271	31	2,237	2.10	4,698
1975	725	786	293	268	19	2,091	2.35	4,914
1976	593	782	239	241	15	1,870	2.40	4,488
1977	465	1,005	290	180	50	1,990	2.05	4,080
1978	550	620	196	174	40	1,580	2.05	3,239
1979	617	755	126	197	31	1,726	2.15	3,711
1980	644	811	108	209	18	1,790	2.30	4,117
1981	650	622	141	153	37	1,603	2.55	4,088
1982	742	458	156	166	18	1,540	2.55	3,927
1983	595	514	110	138	21	1,378	2.45	3,376

POULTRY: AVERAGE NUMBER OF LAYERS BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973-1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						1,000					
DEC 1/	1,800	1,717	1,751	1,504	1,434	1,447	1,253	1,342	1,412	1,299	1,195
JAN	1,813	1,676	1,742	1,496	1,501	1,402	1,338	1,320	1,362	1,357	1,185
FEB	1,790	1,602	1,715	1,474	1,515	1,440	1,400	1,331	1,322	1,378	1,086
MAR	1,740	1,565	1,743	1,429	1,509	1,500	1,480	1,339	1,326	1,354	1,028
APR	1,717	1,536	1,718	1,401	1,514	1 503	1,435	1,332	1,334	1,340	1,032
MAY	1,704	1,530	1,668	1,408	1,539	1,484	1,385	1,318	1,293	1,326	1,047
JUN	1,674	1,533	1,637	1,428	1,519	1,392	1,395	1,300	1,220	1,278	1,037
JUL	1,668	1,550	1,662	1,415	1,521	1,340	1,421	1,309	1,195	1,272	1,025
AUG	1,680	1,591	1,679	1,400	1,515	1,388	1,416	1,355	1,211	1,266	1,019
SEP	1,675	1,633	1,614	1,399	1,435	1,395	1,365	1,383	1,272	1,245	1,015
OCT	1,687	1,676	1,566	1,406	1,401	1,383	1,373	1,387	1,368	1,230	1,011
NOV	1,700	1,705	1,537	1,398	1,440	1,280	1,384	1,420	1,329	1,215	1,064
ANNUAL	1,721	1,610	1,669	1,430	1,487	1,413	1,387	1,345	1,304	1,297	1,062

EGGS: DAILY RATE OF LAY BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973 - 1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Percent					
DEC 1/	63.0	65.4	64.0	65.5	65.3	63.1	67.0	67.3	66.3	69.5	64.8
JAN	61.7	64.7	64.5	65.0	65.2	64.5	67.1	66.0	63.9	66.5	68.1
FEB	62.8	64.1	64.1	64.5	63.9	66.0	67.6	67.3	64.8	64.8	69.1
MAR	62.7	64.2	64.6	65.8	64.4	65.0	67.9	67.5	68.1	65.2	65.9
APR	64.5	64.4	67.0	67.8	65.5	65.7	67.1	67.6	67.5	66.8	67.8
MAY	66.3	65.2	68.0	68.3	66.9	67.2	64.9	66.1	70.0	67.6	67.3
JUN	63.8	65.4	67.5	67.3	69.3	67.9	64.7	66.7	71.0	67.7	67.5
JUL	60.7	65.0	66.3	66.0	66.0	67.4	66.4	66.5	67.5	67.0	69.2
AUG	61.0	63.6	66.0	64.0	63.4	66.2	66.7	61.9	69.3	66.2	69.6
SEP	62.1	61.7	65.8	62.3	64.4	66.3	67.3	62.7	68.1	64.8	69.0
OCT	61.8	62.0	65.8	63.5	65.1	66.8	67.0	67.5	66.0	65.1	67.0
NOV	63.2	63.5	66.3	65.3	64.7	66.8	67.9	68.1	67.7	65.4	72.0
ANNUAL	62.6	64.0	66.0	65.5	65.4	66.1	67.0	66.2	67.4	66.3	68.5

EGGS: TOTAL PRODUCTION BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973 - 1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Million					
DEC 1/	35	35	35	31	29	28	26	28	29	28	24
JAN	35	34	35	30	30	28	28	27	27	28	25
FEB	31	29	31	28	27	27	27	26	24	25	21
MAR	34	31	35	29	30	30	31	28	28	27	21
APR	33	30	35	28	30	30	29	27	27	27	21
MAY	35	31	35	30	32	31	28	27	28	28	23
JUN	32	30	33	29	32	28	27	26	26	26	21
JUL	31	31	34	29	31	28	29	27	25	26	22
AUG	32	31	34	28	30	28	29	26	26	26	22
SEP	31	30	32	26	28	28	28	26	26	24	21
OCT	32	32	32	28	28	29	29	29	28	25	21
NOV	32	32	31	27	28	26	28	29	27	24	23
ANNUAL	393	376	402	343	355	341	339	326	321	314	265

1/ Previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, MASSACHUSETTS, 1973-1983

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000			1,000 Pounds			Cents	1,000 Dollars
1973	1,673	12	1,700	8,676	55	9,010	15.4	1,396
1974	1,706	12	1,697	10,037	55	10,012	10.3	1,037
1975	1,371	11	1,506	7,111	51	7,982	10.3	827
1976	1,090	11	1,300	6,186	51	7,150	13.3	958
1977	1,331	11	1,200	7,475	51	6,600	11.3	752
1978	901	11	1,300	5,134	51	7,150	12.3	885
1979	1,057	11	900	5,835	51	4,950	13.2	660
1980	1,225	11	1,150	6,708	51	6,325	8.3	529
1981	1,474	11	1,650	8,266	51	9,075	9.0	822
1982	828	11	880	4,457	51	4,840	8.0	391
1983	838	11	989	4,793	51	5,440	10.5	576

EGGS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Millions		Cents	1,000 Dollars	
1973	393	392	62.9	20,547	20,599
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239
1981	321	320	86.0	22,933	23,005
1982	314	313	84.0	21,910	21,980
1983	265	264	91.0	20,020	20,096

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	TURKEYS RAISED		NUMBER PRODUCED	POUNDS PRODUCED	PRICE PER POUND	VALUE OF PRODUCTION
	HEAVY	LIGHT				
	1,000			1,000 Pounds	Cents	1,000 Dollars
1973	144	29	173	3,287	62.0	2,038
1974	139	33	172	3,268	57.0	1,863
1975	106	19	125	2,375	58.0	1,378
1976	122	21	143	2,860	58.0	1,659
1977	110	15	125	2,600	58.0	1,508
1978	128	18	146	2,993	68.0	2,035
1979	133	7	140	2,800	65.0	1,820
1980	126	0	126	2,470	78.0	1,927
1981	145	0	145	3,045	77.0	2,345
1982	145	0	145	3,088	77.0	2,378
1983	160	0	160	3,313	84.0	2,783

HATCH: BROILER-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	8,205	8,430	8,370	8,742	6,691	6,770	2,712	2,043
FEBRUARY	7,797	7,833	7,644	8,103	6,617	5,665	2,548	2,699
MARCH	8,922	9,107	8,961	9,093	7,535	6,391	2,876	2,721
APRIL	8,763	8,804	9,218	9,192	7,252	4,645	3,115	2,890
MAY	8,711	9,481	9,383	9,424	7,545	3,294	3,047	2,841
JUNE	8,494	8,828	8,855	9,216	7,524	3,129	2,910	2,528
JULY	8,720	9,024	9,033	9,216	7,495	3,107	2,774	2,440
AUGUST	8,554	8,184	8,661	8,796	7,620	2,888	2,948	2,249
SEPTEMBER	8,025	7,547	8,168	7,385	6,783	2,844	2,980	2,303
OCTOBER	7,950	8,079	7,998	6,903	6,654	2,672	2,687	2,317
NOVEMBER	8,173	7,867	7,835	6,875	6,857	2,401	2,297	2,143
DECEMBER	8,294	8,179	8,196	7,292	6,999	2,391	2,493	2,511
ANNUAL	100,608	101,363	102,322	100,237	85,572	46,197	33,387	29,685

HATCH: EGG-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	1,951	2,187	1,668	1,860	2,150	1,767	1,102	1,626
FEBRUARY	2,001	1,985	1,684	1,936	1,899	1,837	1,230	1,370
MARCH	2,249	2,215	1,837	2,128	1,990	2,024	1,685	2,008
APRIL	2,423	2,401	2,145	2,470	1,797	2,060	2,015	1,947
MAY	2,440	2,329	2,231	2.440	2,098	1,954	2,221	2,018
JUNE	2,246	2,153	2,347	2,165	1,899	1,970	1,763	2,070
JULY	1,988	1,977	2,131	2,131	1,782	1,676	1,646	1,716
AUGUST	1,935	2,275	1,967	2,270	2,097	1,647	1,368	1,687
SEPTEMBER	2,014	1,854	1,886	1,438	1,714	1,748	1,426	1,894
OCTOBER	1,881	1,873	2,062	1,938	1,934	1,896	1,603	1,669
NOVEMBER	1,964	1,652	1,863	2,071	1,693	1,538	1,512	1,797
DECEMBER	2,289	1,741	1,850	2,233	1,738	1,467	1,740	2,094
ANNUAL	25,381	24,642	23,671	25,080	22,791	21,584	19,311	21,896

CORN SILAGE

Production of corn silage during 1983 totaled 663,000 tons the same as during 1982. Harvested acres and yield were also the same as the previous year. Planted acres totaled 43,000 acres, 7 percent less than 1982. This indicates that less corn acreage went for other uses during 1983. Value of the 1983 silage was $19.9 million, 6 percent above the 1982 crop.

HAY

Production of all hay on Massachusetts farms during 1983 totaled 313,000 tons, 10 percent more than a year earlier and the highest production since the 1960's. Both acres harvested, at 123,000 and average yield, at 2.54 tons per acre, were higher in 1983 than in 1982. The average price per ton during 1983 was $91.00 giving a total hay crop value of $28.5 million, up 13 percent from the previous year.

Alfalfa and mixtures containing alfalfa totaled 87,000 tons or 28 percent of all hay. Both yield and production were above 1982 with harvested acreage unchanged.

All other hay production totaled 226,000 tons in 1983, up 11 percent from the 1982 total. This increase in production resulted from increases in both harvested acres and yield.

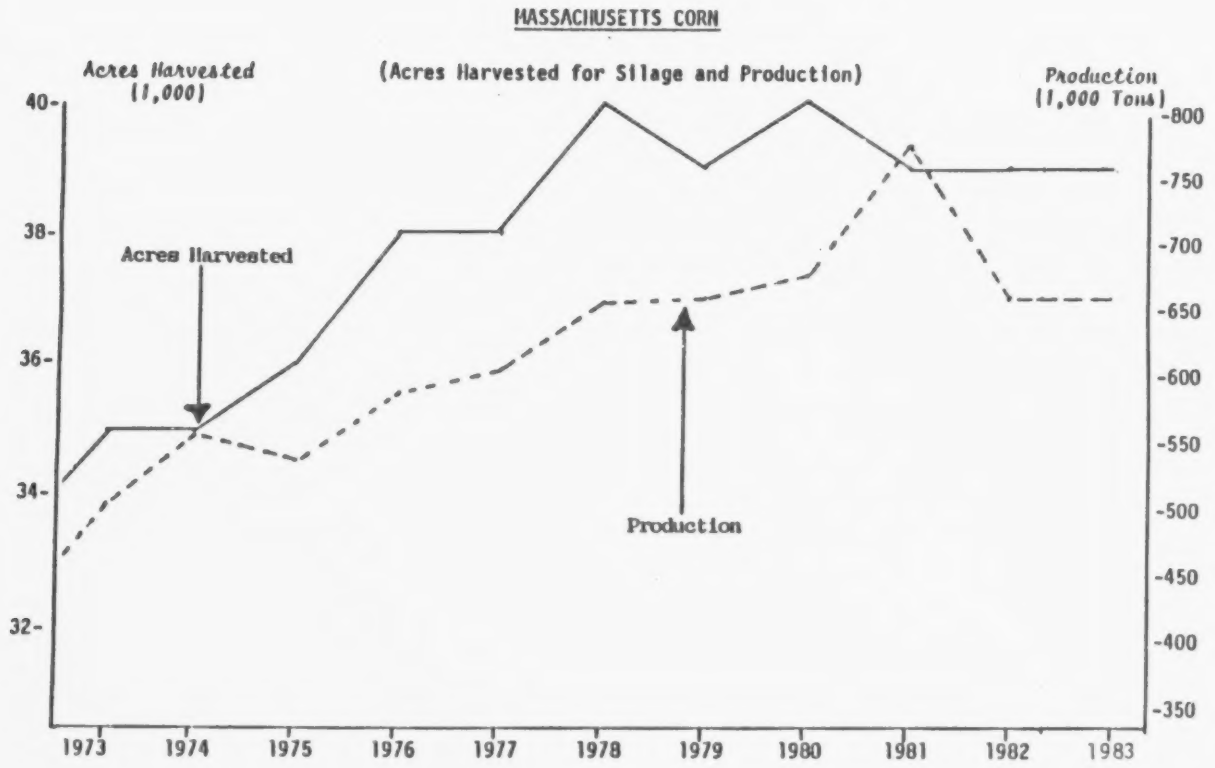
TOBACCO

Massachusetts tobacco production totaled 768,000 pounds in 1983, 10 percent less than the 1982 crop. This decrease resulted from relatively sharp reductions in harvested acres for both Havana Seed and Shade types.

Havana Seed acreage was down from 1982, but the 255 acres harvested is still the second highest since 1972. Shade growers in the Commonwealth harvested 170 acres, down 80 acres from 1982. Yields averaged above a year earlier for both types. Tobacco prices indicate a slight increase for Havanna Seed, while Shade price was down $1.50 per pound in 1983.

CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES PLANTED FOR ALL PURPOSES	SILAGE			
		ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000	1,000	Tons	1,000 Tons	1,000 Dollars
1973	37	35	14.5	508	7,366
1974	38	35	16.0	560	10,080
1975	39	36	15.0	540	11,475
1976	43	38	15.5	589	12,987
1977	44	38	16.0	608	13,923
1978	45	40	16.5	660	14,850
1979	44	39	17.0	663	16,575
1980	45	40	17.0	680	19,380
1981	46	39	20.0	780	19,968
1982	46	39	17.0	663	18,763
1983	43	39	17.0	663	19,956



ALFALFA HAY: ACREAGE AND PRODUCTION, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	28,000	2.55	71,000
1974	25,000	2.55	64,000
1975	26,000	2.60	68,000
1976	26,000	2.45	64,000
1977	28,000	2.30	64,000
1978	28,000	2.60	73,000
1979	27,000	2.90	78,000
1980	27,000	2.40	65,000
1981	28,000	2.80	78,000
1982	29,000	2.80	81,000
1983	29,000	3.00	87,000

ALL OTHER HAY: ACREAGE AND PRODUCTION, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	84,000	2.15	181,000
1974	90,000	2.00	180,000
1975	92,000	2.05	189,000
1976	94,000	2.00	188,000
1977	92,000	1.90	175,000
1978	92,000	2.15	198,000
1979	92,000	2.25	207,000
1980	88,000	2.10	185,000
1981	90,000	2.15	194,000
1982	90,000	2.25	203,000
1983	94,000	2.40	226,000

ALL HAY: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
		Tons		Dollars	1,000 Dollars
1973	112,000	2.25	252,000	50.00	12,600
1974	115,000	2.12	244,000	63.00	15,372
1975	118,000	2.18	257,000	79.00	20,303
1976	120,000	2.10	252,000	71.00	17,892
1977	120,000	1.99	239,000	69.00	16,491
1978	120,000	2.26	271,000	73.00	19,783
1979	119,000	2.39	285,000	72.00	20,520
1980	115,000	2.17	250,000	76.00	19,000
1981	118,000	2.31	272,000	80.00	21,760
1982	119,000	2.39	284,000	89.00	25,276
1983	123,000	2.54	313,000	91.00	28,483

TOBACCO, SHADE TYPE: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593
1981	900	1,575	1,418	10.00	14,180
1982	250	1,200	300	12.50	3,750
1983	170	1,470	250	11.00	2,750

TOBACCO, HAVANA SEED: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	250	2,000	500	1.31	655
1981	240	2,300	552	1.40	773
1982	300	1,840	552	1.35	792
1983	255	2,030	518	1.40	725

FRUIT AND VEGATABLE HIGHLIGHTS

CRANBERRIES

Massachusetts cranberry growers have been producing record or near record crops each year for the past several years and 1983 was no exception. Production in 1983 totaled a record 1.460 million barrels, 13 percent above the 1982 production. Excellent growing conditions contributed to a record high yield with growers harvesting 130.4 barrels to the acre. A season average price of $50.70 per barrel during 1983 gave growers a $74.0 million value for their crop.

APPLES

Apple producers in the Commonwealth had a relatively good year on the production side in 1983 with a crop 2.3 million 42-pound units. The price per unit, at $7.10, was down from the previous two years with resulting value of production 5 percent below 1982. Massachusetts apple production continues to rank 13th in the Nation.

PEACHES

The 1983 peach crop benefitted from favorable growing conditions. Production totaled 35,000 48-pound units, 13 percent above the previous year. Price per unit also increased in 1983 resulting in a value of production totaling $782,000.

POTATOES

Potato production in 1983 totaled 646,000 cwt., 17 percent below the previous year and the smallest production since 1973. The drop in production resulted from both an acreage reduction and a relatively low yield. The crop is valued at $4.0 million, the lowest value since 1975.

VEGETABLES

Commercial vegetable growers in the Commonwealth produced 800,000 cwt. of sweet corn and 94,000 cwt. of tomatoes for sale as fresh produce in 1983. Sweet corn production was 18 percent more than 1982, while tomato production was down 35 percent. The value of these two commodities was $13.5 million in 1983, 3 percent less than the 1982 value. The decrease in value was the result of the lower tomato production and value as sweet corn was above 1982.

CRANBERRIES: ACREAGE, PRODUCTION, UTILIZATION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	ACRES	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels	1,000 Barrels				Dollars	1,000 Dollars
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.50	39,698
1981	11,200	104.6	1,172	205	875	92	41.50	48,639
1982	11,200	114.9	1,287	169	998	120	46.30	59,588
1983	11,200	130.4	1,460	176	1,257	27	50.70	74,022

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.

APPLES: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	TOTAL PRODUCTION 1/	UTILIZED PRODUCTION	PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	1,000 42-Pound Units		Dollars	1,000 Dollars
1973	1,976	1,976	5.59	11,039
1974	2,548	2,381	4.33	10,300
1975	2,500	2,333	4.37	10,192
1976	2,262	2,262	6.13	13,870
1977	2,262	2,190	5.38	11,776
1978	2,500	2,500	5.80	14,490
1979	2,262	2,262	6.51	14,725
1980	2,381	2,381	6.13	14,600
1981	1,976	1,976	8.35	16,501
1982	2,381	2,381	7.26	17,290
1983	2,310	2,310	7.10	16,403

1/ Estimates relate to production in orchards of 100 or more trees.

PEACHES: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 48-Pound Units	Dollars	1,000 Dollars
1973	58	9.66	560
1974	35	8.74	306
1975	42	9.52	400
1976	35	12.63	442
1977	42	10.48	440
1978	38	13.74	522
1979	38	15.16	576
1980	42	14.29	600
1981	4	17.50	70
1982	31	21.77	675
1983	35	22.34	782

POTATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt	Dollars	1,000 Dollars
1973	4,000	160	640	4.90	3,336
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610
1981	3,300	225	743	5.40	4,012
1982	3,800	205	779	3.90	3,038
1983	3,400	190	646	6.20	4,005

TOMATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	590	195	115	21.40	2,461
1977	560	190	106	20.40	2,162
1978	550	210	116	21.80	2,529
1979	510	190	97	24.60	2,386
1980	680	210	143	21.70	3,103
1981	760	215	163	20.10	3,276
1982	660	220	145	30.00	4,350
1983	570	165	94	30.00	2,820

SWEET CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,600	81	697	7.10	4,949
1976	8,200	72	590	7.71	4,549
1977	7,800	60	468	8.90	4,165
1978	7,200	88	634	7.00	4,438
1979	7,700	84	647	8.99	5,817
1980	8,200	88	722	9.09	6,563
1981	8,800	85	748	11.70	8,752
1982	7,700	88	678	14.00	9,492
1983	8,700	92	800	13.30	10,640

MAPLE SYRUP

Maple syrup production during the spring of 1983 totaled 20,000 gallons, 33 percent below the preceding year. The season was reported too warm in most areas and was the main cause of the lower production. The 1983 sugaring season opened about one week earlier than normal and closed around the usual closing date. The color of the syrup was reported as primarily medium. At $20.90 per gallon, the syrup crop had a value of $418,000, 31 percent less than the previous year.

MAPLE SYRUP: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1984

YEAR	PRODUCTION	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons	Dollars	1,000 Dollars
1973	20	9.40	188
1974	25	11.20	280
1975	31	10.70	332
1976	27	12.75	344
1977	27	14.20	383
1978	28	14.10	395
1979	30	15.90	477
1980	18	18.40	331
1981	40	18.70	748
1982	30	20.20	606
1983	20	20.90	418
1984	26	21.20	551

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1973 - 1984

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	1/2 GAL	QUART	PINT	1/2 PINT	GAL	1/2 GAL	QUART	PINT	1/2 PINT	
	Dollars										
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40
1981	18.69	10.73	6.23	4.07	2.59	16.44	9.39	5.39	3.33	2.01	18.70
1982	19.39	11.31	6.61	4.20	2.68	16.38	9.87	5.41	3.46	2.13	20.20
1983	19.29	11.08	6.56	4.23	2.64	17.09	9.76	5.74	3.42	2.23	20.90
1984	19.40	11.16	6.56	4.28	2.66	16.80	9.54	5.48	3.50	2.25	20.60

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND AND PLANT NUTRIENTS, MASSACHUSETTS, 1975 - 1983

YEAR	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY AND MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
	Tons						
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,081	5,444	6,375
1981	59,793	10,864	466	71,123	9,352	7,457	6,893
1982	47,171	15,239	689	63,099	8,550	5,122	6,688
1983	37,194	14,342	312	51,848	7,692	3,986	5,226

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1973 - 1983, BY YEARS (1977=100)

YEAR	COMMODITIES & SERVICES, INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1973	71	72	73	55	77	69
1974	81	81	83	65	81	79
1975	89	89	91	77	87	85
1976	95	95	97	88	94	93
1977	100	100	100	100	100	100
1978	108	109	108	117	100	107
1979	123	125	125	143	107	117
1980	138	139	138	174	115	126
1981	150	151	148	211	123	137
1982	157	155	150	241	131	143
1983	161	159	153	251	137	147

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, U.S. ANNUAL AVERAGE, 1973-1983 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PRODUCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COMMERCIAL VEGETABLES	ALL CROPS	DAIRY PRODUCTS	POULTRY & EGGS	MEAT ANIMALS	ALL LIVESTOCK	
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	1099	91	93	137	105	105	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	114	102	124	113	125	135	112	156	144	134
1981	166	141	140	111	110	130	136	134	142	116	150	143	139
1982	146	120	154	92	88	175	127	121	140	110	155	145	133
1983	148	144	147	104	102	126	131	127	140	118	147	141	134

FEED PRICES: AVERAGE PRICE PAID, BY MONTH, MASSACHUSETTS, 1979-1983

KIND AND YEAR		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
						Dollars Per Ton							
Laying Feed	1979	144	145	149	150	152	153	165	162	160	165	160	162
	1980	162	162	160	160	165	165	174	184	195	195	205	200
	1981	205	200	195	195	195	195	190	188	178	178	174	174
	1982	175	174	170	170	172	173	173	171	167	159	160	164
	1983	165	167	170	176	180	179	182	190	195	195	195	192
Dairy Feed													
16% protein	1979	148	150	151	147	147	149	161	153	155	162	162	165
	1980	165	160	160	160	160	160	164	175	185	185	195	195
	1981	200	200	190	195	200	195	190	185	177	180	180	180
	1982	180	178	175	178	172	177	176	176	170	155	170	171
	1983	172	169	169	172	175	173	173	180	189	192	205	200
18% protein	1979	152	154	155	151	151	153	165	160	162	170	170	175
	1980	175	170	170	165	165	165	170	175	190	200	210	210
	1981	215	215	205	210	215	210	210	200	196	200	197	197
	1982	197	195	193	196	180	191	185	187	183	163	180	182
	1983	183	180	181	182	185	181	181	186	196	200	205	205
20% protein	1979	156	158	159	155	155	157	170	163	165	172	172	177
	1980	177	175	175	170	170	170	173	185	200	205	215	215
	1981	220	220	210	215	220	215	210	205	200	200	200	200
	1982	200	200	195	197	179	194	190	190	187	167	184	183
	1983	185	184	185	185	188	184	184	191	200	205	210	210
						Dollars Per Cwt.							
Bran	1979	8.60	8.80	8.90	8.90	8.80	8.90	9.50	9.00	8.90	8.90	8.90	9.20
	1980	9.80	9.90	10.00	10.50	10.00	10.50	10.50	10.50	11.00	11.50	11.50	11.50
	1981	11.50	11.00	10.00	10.00	10.50	10.50	10.50	10.00	9.50	9.30	9.70	9.80
	1982	10.50	10.00	9.50	9.80	11.00	9.70	9.30	9.10	9.00	9.70	9.10	9.20
	1983	9.50	9.60	9.60	10.00	10.50	10.50	10.50	10.50	11.00	12.00	13.00	12.50
Middlings	1979	8.50	8.60	8.70	8.30	8.30	8.30	9.20	8.60	8.60	8.90	9.00	9.20
	1980	9.20	8.70	9.00	9.50	9.50	9.40	9.20	9.70	10.50	11.00	11.00	11.00
	1981	11.00	10.50	9.50	10.00	10.50	10.00	9.50	9.00	9.00	9.20	9.50	9.80
	1982	9.80	9.60	9.50	9.80	11.00	9.90	9.50	9.40	9.10	9.80	9.20	9.40
	1983	9.60	10.00	9.40	9.80	10.00	9.70	9.70	10.00	10.50	11.00	12.00	12.00
Cornmeal	1979	7.80	7.90	8.20	8.30	8.50	8.60	9.40	9.30	9.30	9.30	9.20	9.10
	1980	8.80	8.70	9.00	9.20	9.00	9.10	9.50	10.00	10.50	10.50	10.50	10.50
	1981	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.50	10.00	9.70	9.70
	1982	9.60	9.70	9.80	9.90	10.00	10.00	10.50	10.50	10.50	9.70	9.80	9.80
	1983	9.70	9.80	10.00	10.00	10.50	10.50	10.50	11.00	11.00	11.00	11.00	11.00
Soybean Meal	1979	14.50	14.50	15.00	15.00	15.00	15.00	16.00	15.00	14.50	15.00	14.50	15.00
	1980	15.00	14.50	14.50	14.50	14.00	14.00	14.50	15.50	17.00	18.00	19.00	18.50
	1981	18.00	17.50	17.50	18.00	18.00	17.50	17.00	17.00	16.50	16.00	16.00	16.00
	1982	16.00	16.50	16.50	16.50	17.00	16.00	16.00	15.50	15.50	15.00	15.50	15.50
	1983	15.50	15.50	15.50	16.00	16.00	16.00	16.00	17.00	17.50	17.00	17.50	17.50
Molasses	1979	5.80	5.90	6.00	6.00	6.00	6.10	6.40	6.40	6.40	6.60	7.20	7.00
	1980	7.20	8.00	8.00	8.30	8.00	8.00	8.00	8.80	9.70	9.70	10.00	9.50
	1981	10.00	10.00	10.00	9.80	9.50	9.00	9.00	9.00	9.00	8.70	8.30	8.10
	1982	8.10	8.10	8.10	7.80	8.60	8.00	8.70	8.10	8.10	8.30	8.00	7.70
	1983	7.80	7.80	7.80	7.80	7.90	7.80	7.80	7.80	7.80	7.80	7.90	8.00
Stock Salt	1979	5.60	5.60	5.70	5.70	5.70	5.60	5.70	5.80	5.80	5.80	6.00	6.00
	1980	6.10	6.00	6.50	7.00	7.50	7.50	8.20	8.20	8.50	8.70	8.60	7.80
	1981	8.00	7.70	7.70	7.70	7.90	8.00	8.00	8.50	8.50	8.00	8.40	8.10
	1982	8.50	8.00	8.00	8.00	9.00	7.90	8.50	8.70	8.60	9.40	8.90	9.00
	1983	9.00	9.30	9.40	9.40	9.50	9.50	9.40	10.00	10.00	10.00	10.00	9.70

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
TOTAL FARM PRODUCTION EXPENDITURES	50,551	8,553,100	55,521	131,301,819
LIVESTOCK & POULTRY:	3,937	666,483	5,792	13,697,917
Cattle Purchased	1,280	216,685	4,209	9,954,172
Hogs & Pigs Purchased	135	22,917	397	939,040
Sheep & Lambs Purchased	8	1,383	153	361,924
Poultry Purchased	602	101,931	346	818,648
Other Livestock & Poultry Purchased	519	87,905	330	780,471
Other 5/	492	83,271	256	606,150
FARM SERVICES:	5,964	1,009,671	9,691	22,918,341
Custom Hire	304	51,500	750	1,772,502
Veterinarian, Medicine & Supplies	526	89,030	343	812,109
Hired Transportation for Delivery to Farm	92	15,593	66	157,157
Insurance	965	163,413	941	2,224,326
Marketing Expenses (Crop & Livestock)	1,041	176,208	1,292	3,056,305
Miscellaneous Farm Business	1,033	174,912	880	2,080,094
Rent	1,064	180,122	5,264	12,448,054
Cash Rent	905	153,197	2,171	5,133,472
Share Rent	159	26,924	3,093	7,314,582
Equipment Leasing 6/	74	12,602	156	367,794
FEED:	11,779	1,994,210	8,580	20,289,707
Grains	1,608	272,182	2,721	6,434,052
Hays & Forages	482	81,666	909	2,150,327
Mixed or Formula Feeds	9,322	1,578,264	4,487	10,611,206
Other Feeds, Additives & Ingredients	362	61,301	371	876,401
Pasture & Grazing Livestock	5	797	92	217,722
WAGES & CONTRACT LABOR:	6,272	1,061,920	4,661	11,023,122
Cash Wages	5,190	878,744	3,701	8,752,328
Contract Labor	132	22,316	275	649,570
Total Perquisites Furnished	950	160,859	686	1,621,225
INTEREST:	3,724	630,501	5,880	13,905,083
Farm Real Estate	2,771	469,166	3,351	7,925,424
Operating Loans 7/	953	161,335	2,529	5,979,659
Landlord Farm Real Estate	42	7,101	250	591,093
FERTILIZER, LIME & SOIL CONDITIONERS: 8/	2,737	463,405	3,546	8,386,797
Custom Applied Fertilizer	626	106,034	1,182	2,794,386
Not Custom Applied Fertilizer	1,739	294,477	1,925	4,553,547
Lime & Soil Conditioners	343	58,118	151	357,783
FUELS & ENERGY:	3,807	644,515	4,042	9,558,793
Gasoline - Delivered Bulk to Farm	802	135,783	818	1,934,959
Gasoline - Purchased at Service Station	269	45,458	299	707,740
Diesel Fuel	848	143,588	1,331	3,148,489
Fuel Oil & Kerosene	330	55,872	52	122,475
L. P. Gas	122	20,732	280	663,241
Natural Gas	145	24,534	144	341,235
Motor Oil, Grease & Special Fluids	127	21,500	173	408,290
Electricity (Excluding Irrigation)	1,090	184,615	687	1,624,669
Electricity for Irrigation	10	1,739	248	585,608

See Footnotes, Page 26

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
FARM & MOTOR SUPPLIES:	3,569	604,179	3,097	7,324,060
Motor Vehic.Operating Cost Other than Fuels	1,693	286,585	2,109	4,988,677
Miscellaneous Farm Supplies	1,129	191,177	707	1,672,711
Marketing Containers	747	126,418	280	662,672
BUILDING, FENCING & FARM IMPROVEMENTS: 9/	1,761	298,057	1,957	4,628,859
New Building Construction & Remodeling	829	140,407	875	2,068,244
Building Maintenance & Repair	389	65,809	219	518,274
Fencing Expenses	75	12,741	147	346,985
Maintenance & Repairs (Other)	130	21,961	252	595,514
New Construction Improvements (Other)	276	46,668	447	1,056,531
TRACTORS & SELF-PROPELLED MACHINERY:	898	151,977	1,694	4,005,601
Tractors	709	119,959	1,102	2,606,156
Tractors, New	331	55,958	570	1,347,430
Tractors, Used	378	64,001	532	1,258,726
Self-Propelled Machinery	189	32,019	592	1,399,445
OTHER FARM MACHINERY,IMPLEMNTS & LIVESTK EQUIPMT:	1,662	281,330	1,449	3,426,304
Farm Machinery, Not Self-Propelled	1,148	194,281	1,042	2,464,286
Dairy, Poultry & Other Livestock Equipment	311	52,579	219	518,458
Repair & Maintenance Livestock Equipment	204	34,470	188	443,560
SEEDS & PLANTS:	1,319	223,367	1,478	3,494,495
Seed for Field Crops & Small Grains	613	103,814	1,034	2,445,698
TAXES:	1,543	261,249	1,200	2,837,617
Farm Real Estate	1,305	220,940	994	2,351,072
Other Property Tax 7/	238	40,309	206	486,545
Landlord Farm Real Estate	443	74,960	690	1,631,400
AUTOS, TRUCKS & OTHER VEHICLES: 10/	765	129,534	1,000	2,365,851
Autos	124	20,985	169	399,404
Trucks	519	87,921	717	1,695,045
Trucks, New	436	73,844	582	1,376,407
Trucks, Used	83	14,078	135	318,638
AGRICULTURAL CHEMICALS: 8/ 11/	802	135,833	1,448	3,425,055
Pesticides for Crops & Crop Storage	737	124,820	469	1,108,614
Pesticides for Livestock, Poultry & Buildings	56	9,461	10	23,850
UNALLOCATED OTHER EXPENSES:	12	2,029	6	14,217

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes equipment renting.
7/ Includes landlord expenditures.
8/ Landlord expenditure included only in total.
9/ "All Other Improvements" included in total only.
10/ "Other Vehicles" included in total only.
11/ Includes seed treatments.

FARM BALANCE SHEET (Excluding Farm Households), MASSACHUSETTS, JANUARY 1, 1979-1983

ITEM	1979	1980	1981	1982	1983
			Million Dollars		
Assets:					
Real Estate 1/	737.5	783.6	807.0	804.2	823.1
Livestock and Poultry 2/	65.3	78.8	90.0	87.3	77.3
Machinery and Motor Vehicles 3/	135.6	149.3	150.6	153.9	158.1
Crops 4/	26.2	22.8	25.2	24.8	26.4
Financial Assets	65.8	69.8	64.4	70.9	71.5
TOTAL FARM ASSETS	1,030.3	1,104.3	1,137.3	1,141.1	1,156.5
Claims:					
Real Estate Debt 5/	57.3	67.3	74.0	82.6	86.3
Non-Real Estate Debt 6/	105.6	129.5	124.9	139.7	138.3
TOTAL FARM DEBT	163.0	196.8	199.0	222.3	224.6
Equity	867.4	907.5	938.3	918.8	932.0

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1978-1982

CURRENT FARM OPERATING EXPENSES	1978	1979	1980	1981	1982
			Million Dollars		
Feed	39.7	43.7	46.9	48.4	45.0
Livestock	2.9	1.4	1.4	1.5	1.0
Seed	7.8	8.8	10.0	10.5	10.6
Fertilizer and Lime	8.3	7.7	8.8	9.7	7.6
Repairs and Operation of Capital Items	27.6	34.9	40.3	42.4	41.5
Hired Labor	50.5	58.8	64.4	62.6	74.2
Miscellaneous	35.8	38.8	41.8	49.6	52.3
TOTAL CURRENT FARM OPERATING EXPENSES	172.7	194.1	213.4	224.8	232.3
Depreciation and Other Consumption of Farm Capital	36.3	52.4	58.4	62.7	63.8
Taxes on Farm Property	14.2	27.8	20.4	21.8	21.3
Interest on Farm Mortgage Debt	5.5	6.2	7.3	8.3	9.7
Net Rent to Non-Operator Landlord	-.3	--	.1	.3	.3
TOTAL PRODUCTION	228.3	280.5	299.6	317.9	327.4

GROSS INCOME AND NET INCOME FROM FARMING, MASSACHUSETTS, 1960-1982

ITEM	1960	1970	1978	1979	1980	1981	1982
				Million Dollars			
Gross Farm Income:							
Cash Receipts from Farm Marketing	164.7	157.0	278.8	287.4	305.9	330.0	341.1
Government Payment	.7	.6	.8	.6	.7	.8	.6
Non-Money Income	15.5	15.1	41.5	47.7	54.5	54.8	56.5
Other Farm Income	.7	1.5	2.2	2.7	2.8	3.3	3.5
TOTAL	181.6	174.2	323.2	338.4	364.0	388.9	401.8
Farm Production Expenses	135.6	131.3	237.3	280.5	299.6	317.9	327.4
Net Farm Income Before Inventory Adjustment	46.1	42.8	85.9	57.9	64.4	71.0	74.4
Net Change in Farm Inventory	1.3	.2	.1	3.4	2.9	-6.8	-6.8
Net Farm Income After Inventory Adjustment	47.3	43.0	86.1	61.3	67.3	64.2	67.6

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, MASSACHUSETTS AND NEW ENGLAND, 1983

ITEM	UNIT	MASSACHUSETTS			NEW ENGLAND		
		PRODUCTION	RANK	%U.S. TOTAL	PRODUCTION	RANK	%U.S. TOTAL
		1,000			1,000		
CROPS:							
Cranberries	barrels	1,460	1	48.3	1,460	1	48.3
Apples	42-pounds	2,310	13	1.2	7,929	8	4.0
Peaches	48-pounds	35	32	*	n/a	n/a	n/a
Corn for Silage	tons	663	32	.7	3,904	6	4.0
Hay, All	tons	313	43	.2	2,086	23	1.5
Potatoes	cwt.	646	33	.2	24,190	3	7.2
Tobacco	pounds	768	16	.05	4,224	15	.3
Sweet Corn	cwt.	800	8	5.6	n/a	n/a	n/a
Tomatoes	cwt.	94	20	.3	n/a	n/a	n/a
Maple Syrup	gallons	20	n/a	n/a	607	n/a	n/a
LIVESTOCK AND POULTRY:							
Eggs	each	265,000	40	.4	3,006,000	8	4.4
Milk	pounds	611,000	38	.4	4,845,000	7	3.5
Wool	pounds	56	37	.1	330	30	.3
Sheep	head	.2	37	*	4	30	.2
Lambs	head	3	37	*	26	30	.4
Hogs and Pigs	head	59	40	.1	102	35	.1
Cattle	head	16	46	*	191	37	.4
Calves	head	23	42	.2	172	31	1.6

* Less than .05 percent

FARMS: NUMBER AND LAND, MASSACHUSETTS AND NEW ENGLAND, 1973 - 1984 1/

YEAR	MASSACHUSETTS			NEW ENGLAND		
	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS
		Acres	1,000 Acres		Acres	1,000 Acres
1973	5,500	124	680	28,040	192	5,378
1974	5,500	124	680	27,740	192	5,318
1975	5,800	121	700	26,120	197	5,135
1976	6,300	111	700	27,960	185	5,165
1977	6,200	111	690	28,300	182	5,155
1978	5,900	115	680	28,700	180	5,165
1979	6,200	113	700	29,900	173	5,165
1980	6,200	116	720	30,660	169	5,185
1981	6,100	115	700	30,920	169	5,225
1982	6,100	113	690	30,000	169	5,075
1983	6,100	110	670	30,200	167	5,045
1984	6,100	111	680	29,950	169	5,063

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products.

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1981-1983

COMMODITY	1981	1982	1983	COMMODITY	1981	1982	1983
	1,000 Dollars				1,000 Dollars		
CROPS				LIVESTOCK			
Hay	2,498	2,929	3,267	Cattle and Calves	12,694	7,593	7,183
tobacco	14,895	14,953	4,542	Hogs and Pigs	5,515	7,765	5,838
Potatoes	4,420	3,832	2,251	Sheep and Lambs	159	257	161
Sweet Corn	8,752	9,492	10,640	Dairy Products	85,989	89,074	91,345
Tomatoes	3,276	4,350	2,820	Chickens	817	387	571
Misc. Vegetables	22,886	25,660	18,500	Eggs	22,933	21,910	20,020
Apples	12,856	15,344	14,846	Turkeys	2,345	2,379	2,782
Peaches	35	630	736	Misc. Poultry	2,875	2,831	3,475
Cranberries	48,639	59,588	64,820	Misc Livestock	3,118	3,417	4,714
Other Berries	1,404	2,065	2,270				
Misc. Fruits	283	285	275	TOTAL LIVESTOCK	136,445	135,613	136,089
Maple	711	566	397				
Forest Products	1,656	1,634	1,720				
Greenhouse/Nursery	90,556	92,000	100,000				
Misc. Crops	3,297	4,100	3,775	ALL COMMODITIES	352,609	373,041	366,948
TOTAL CROPS	216,164	237,428	230,859				

MASSACHUSETTS - 1983

LIVESTOCK - 37%

CROPS - 63%

Per capita comsumption of major food commodities (retail weight)[1]

	1974	1975	1976	1977	1978	1979	1980	1981	1982[2]
					Pounds				
Meats:	151.3	143.7	153.0	152.3	146.9	144.8	147.7	145.2	139.4
Beef	85.6	87.9	94.4	91.8	87.2	78.0	76.5	77.2	77.3
Veal	1.9	3.4	3.3	3.2	2.4	1.7	1.5	1.6	1.6
Lamb and mutton	2.0	1.8	1.6	1.5	1.4	1.3	1.4	1.4	1.5
Pork	61.8	50.7	53.7	55.8	55.9	63.8	68.3	65.0	59.0
Fish (edible weight):	12.1	12.2	12.9	12.7	13.4	13.0	12.8	12.9	12.3
Canned	4.7	4.3	4.2	4.6	5.0	4.8	4.5	4.8	4.3
Fresh and frozen	6.9	7.5	8.2	7.7	8.1	7.8	8.0	7.8	7.7
Cured	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3
Poultry products:									
Eggs	36.0	35.1	34.3	34.0	34.6	35.3	34.6	33.8	33.4
Chicken (ready-to-cook)	40.7	40.1	42.7	44.1	46.7	50.6	50.1	51.7	52.9
Turkey (ready-to-cook)	8.8	8.5	9.1	9.1	9.2	9.9	10.5	10.7	10.8
Dairy products:									
Cheese (excluding cottage)	14.6	14.3	15.7	16.1	17.0	17.2	17.6	18.4	20.1
Canned and bulk whole milk	5.6	5.3	5.0	4.3	4.2	4.1	3.8	4.1	4.1
Fluid milk and cream (product weight)	262.3	266.8	263.6	259.9	257.2	253.2	249.7	245.7	242.2
Ice cream (product weight)	17.4	18.5	17.9	17.5	17.4	17.1	17.3	17.2	17.5
Fats and Oils—Total fat content	52.4	52.4	54.9	53.2	54.6	55.7	55.9	56.6	56.8
Butter (actual weight)	4.5	4.7	4.3	4.3	4.4	4.5	4.5	4.3	4.5
Margarine (actual weight)	11.1	11.0	11.9	11.4	11.2	11.2	11.3	11.1	11.1
Lard	3.2	2.8	2.6	2.2	2.2	2.4	2.4	2.5	2.4
Shortening	16.9	17.0	17.7	17.2	17.8	18.4	18.2	18.5	18.8
Other edible fats and oils	19.8	19.9	21.5	21.0	22.1	22.4	22.7	23.5	23.3
Fruits:									
Fresh	75.9	80.3	82.6	79.3	78.6	80.2	85.3	85.1	81.2
Citrus	26.6	28.4	28.1	25.5	25.7	23.8	28.1	24.2	24.0
Noncitrus	49.3	51.9	54.5	53.8	52.9	56.4	57.2	60.9	57.2
Processed:									
Canned fruit	19.3	19.0	18.6	19.0	17.9	17.8	17.4	16.4	13.0
Canned juice	13.0	14.6	14.5	13.6	16.5	16.9	16.7	19.1	13.8
Frozen (including juices)	12.0	14.0	13.6	14.0	12.5	12.6	13.0	12.7	14.1
Chilled citrus juices	5.2	5.6	6.1	5.7	6.1	5.5	5.9	4.2	3.5
Dried	2.4	2.9	2.6	2.5	2.1	2.6	2.4	2.7	2.8
Vegetables:									
Fresh[3]	91.6	90.3	92.9	93.6	95.4	96.4	98.8	96.2	100.9
Canned (excluding potatoes)	52.9	51.9	53.0	53.1	51.8	53.2	48.5	45.6	45.6
Frozen (excluding potatoes)	10.1	9.6	10.1	10.2	10.7	11.2	10.4	11.6	10.7
Fresh potatoes	45.5	51.6	48.5	51.5	48.8	52.1	53.6	45.3	48.7
Frozen potato products	13.1	13.7	14.6	15.7	17.2	17.7	16.9	16.2	18.1
Sweetpotatoes[4]	4.7	4.8	4.8	4.3	4.0	4.2	4.0	3.8	4.3
Grains:									
Wheat flour[5]	111	115	119	116	115	117	117	116	114
Rice	7.5	7.6	7.1	7.5	5.7	9.4	9.4	11.0	11.8
Other:									
Coffee	9.6	9.2	9.4	8.9	7.9	8.5	7.7	7.7	7.5
Cocoa	3.0	2.6	3.0	2.8	2.6	2.6	2.6	2.9	3.0
Peanuts (shelled)	6.4	6.5	6.2	6.3	6.8	6.8	6.5	6.4	6.6
Dry edible beans	5.0	6.5	6.0	6.2	4.8	4.7	4.6	5.7	6.0
Melons	17.0	17.2	18.3	19.1	19.8	18.9	18.9	18.8	20.4
Sugar (refined)	95.6	89.1	93.4	94.2	91.4	89.3	83.7	79.5	75.2
Corn sweeteners[6]	25.6	28.8	31.9	35.3	39.2	43.3	48.9	55.0	60.0
Soft drinks (gallons)	20.7	27.3	30.6	33.3	35.4	36.8	37.8	38.9	39.6

[1] Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis. [2] Preliminary. [3] Commercial production for sale as fresh produce. [4] Table stock and processed. [5] White, whole wheat, semolina, and durum flour. [6] Fructose and glucose. n.a. = not available.

ANNUAL REPORT

MASSACHUSETTS DEPARTMENT

OF

FOOD AND AGRICULTURE

FISCAL YEAR 1984

JULY 1, 1983

TO

JUNE 30, 1984

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David L. Sheldon, Chief, Bureau of Dairying
George L. Pittman, Supervisor of Inspection

RECLAMATION BOARD

Elizabeth M. Costello, Executive Secretary
Mark S. Buffone, Entomologist

GENERAL COUNSEL

Erica L. Powers, General Counsel

1983 was a banner year for legislation for the Department of Food and Agriculture. Six laws, of significance to many farmers, were enacted by the General Court and signed by the Governor. These included the Department reorganization, enacting legislation for a milk producers' security fund and for an apple marketing order, farmland evaluation guidelines for tax assessment under Chapter 61A, exemptions of plastic greenhouses from the requirements of the state building code, and regulations of the sale of maple syrup and maple products. In addition, the Department was given responsibility to license persons engaged in the hearing dog business.

Chapter 691 of the Acts of 1983, the Department reorganization, vests the powers and duties of the Milk Control Commission in the Commissioner of Food and Agriculture, and establishes a Bureau of Milk Marketing within the Division of Regulatory Services to continue the draft work of the former Milk Control Commission. In addition, the reorganization established a Division of Equine Programs, which includes a Bureau of Standardbred Breeding and a Bureau of Thoroughbred Breeding, functions presently carried out by the Division of Fairs.

The Milk Producers' Security Fund, established by Chapter 706 of the Acts of 1983, went into effect March 22, 1984. Its purpose is reimbursing each Massachusetts dairy farmer who sold milk to a dealer who has defaulted in timely payment for the milk. It is funded by a contribution of five cents per hundred weight of milk sold by each dairy farmer who is not a member of a cooperative association which guarantees payment where there is a default in the payment for milk. The Commissioner has appointed a task force of contributing farmers to monitor the Milk Producers' Security Fund.

With strong support from Massachusetts apple growers, enabling legislation was enacted which gives the Commissioner authority to make and issue marketing orders which provide for uniform grading, standards and inspections of apples, research programs, and advertising and sales promotions designed to benefit apple production, storage, processing, or marketing and sales. Chapter 650 of the Acts of 1983 also provides that an apple marketing order will be effective only after it is approved by either 65% of the producers voting who represent 51% of the preceeding season's production, or by 51% of the producers voting who represent 65% of the preceeding season's production. The Commissioner has appointed an apple industry task force to draft a proposed marketing order and has scheduled a referendum for August, 1984.

Chapter 709 of the Acts of 1983 clarifies the farmland valuation provisions of Chapter 61A of the general laws, The Farmland Assessment Act, enacted in 1973, consistent with a 1982 Supreme Judicial Court decision, Mann v. Board of Assessors of Wareham, Mass., 1982. It changes section 10 of Chapter 61A in two ways. First, it requires the assessors to use the values established by the Farmland Valuation Advisory Commission (FVAC) rather than to count them only as guidelines. Second, it changes the last three words of that section to make clear that the local boards of assessors shall use their personal knowledge, judgment and experience to supplement the ranges of values established by the FVAC only as that knowledge, judgment and experience relate to values of such land in agricultural use.

Massachusetts flower growers and vegetable growers who produce bedding plants need to use plastic greenhouses rather than those traditionally constructed of glass, because plastic greenhouses are less expensive to fabricate and are more energy-efficient than glass greenhouses. Chapter 67C of the Acts of 1983 acknowledges this technological development.

Chapter 285 of the Acts of 1983, which protects pure maple syrup, provides that no person shall manufacture, label, package, sell or offer for sale any food article or food product branded as maple, including syrup, candy, cream, butter or sugar, which is not made from pure maple syrup derived from the sap of the maple tree.

Chapter 585 of the Acts of 1983 gives the Department responsibility to license persons engaged in the hearing dog business. A hearing dog is a dog that is professionally trained to aid deaf and hearing-impaired individuals.

The regulatory work of the legal department included the dismissal without prejudice of an adjudicatory proceeding against six milk dealers, and the conduct of hearings on milk price regulations and on proposed regulations to deter the sale of milk below cost, culminating in the issuance of such regulations. Other projects included the exploration with industry representatives, of a possible milk advertising take-out to retain a portion of the federal milk advertising take-out in Massachusetts; representatives of the Department in the bankruptcy of the Great Barrington Fair and Amusement Co., Inc.; review of the operations of the Division of Fairs and the Standardbred and Thoroughbred breeding programs, resulting in a general tightening of procedures; and establishment of procedures for the Pesticide Bureau to gather evidence in a form and manner to enhance legal enforcement action.

It was my privilege as General Counsel to testify before the Agriculture Plank Subcommittee of the Democratic National Platform Committee, to testify before the InternalRevenue Service on regulations on charitable deductions for gifts of conservation easements (including agricultural easements), and to participate in the Feathered Pipe Conclave in Montana to draft proposed revisions to those regulations; to speak before numerous commodity groups, including the Massachusetts Fruit Growers Association and the Massachusetts Farmers' Market Federation; and to conduct milk pricing hearings.

** In Memoriam: With deep regret we report that Peter F. Hines, Associate Counsel (formerly Counsel to the Milk Control Commission), died on October 8,1984, of cancer, after a brief illness. He was responsible for the Spence case, which is of great importance to farmers, and was in daily contact with members of many commodity groups on matters of concern to them.

DIVISION OF AGRICULTURAL DEVELOPMENT
John J. Fitzgerald, Director

The manifold task of maintaining a viable agriculture for the mutual benefit of the agribusiness industry and the consumer is the objective of the Division and the two Bureaus.

The compatible functions of all units can be concisely stated as the establishment, protection and preservation of an agricultural land base together with the development, servicing and promotion of efficient movement of food and agricultural products to the consumer.

The role of each unit of the Division in accomplishing this task is described herein.

BUREAU OF MARKETS
Guy L. Paris, Chief

The objectives of the Bureau are to direct the functions of export marketing, public information, market news, milk flavoring program, promotional programs, roadside marketing, farmers markets and to assist commodity groups.

The Bureau develops exhibits for trade shows, shopping center malls and agricultural fairs, prepares news releases, pamphlets and public service announcements. The Bureau assists commodity groups with legislative problems, their promotional programs and the marketing of their products, and assists agricultural purchasers in their negotiation with local farmers. Staff members attend functions related to marketing and promotion of agricultural products, develop and distribute point-of-purchase material and promotional material to retail stores and roadside stands pertaining to "Massachusetts Grown and Fresher"!

This year, the Bureau conducted a seminar at the State House promoting "Opportunities for Produce Wholesaling", conducted a produce buyer's vegetable farm tour, assisted local roadside stand operators with their building permit problems, assisted growers in their greenhouse construction problems with cities and towns, alloted promotional funds to commodity groups, and Federal/State Marketing Improvement Funds.

The main concern of the Bureau is to move Massachusetts agricultural products to markets. These markets can be direct sales to consumers, large or small retail foodmarkets, wholesalers, state or private institutions and other retail outlets.

The marketing of farm products in Massachusetts results in cash receipts to local farmers of more than 300 million dollars. Agribusiness in the state is valued at several billion dollars, and food stores represent the largest retail business in the Commonwealth with some 5,714 food stores which generate sales of over four billion dollars.

Two basic factors have continued to influence agricultural exports - world economic growth and high U.S. interest rates. Over the past year, the developed and developing countries have experienced stagnant to moderate economic growth. High U.S. interest rates have had a twofold impact on dampening the demand for U.S. agricultural products. First they have promoted rapid appreciation of the U.S. dollar against major world currencies, making U.S. exports relatively more expensive, and secondly the high rates have increased the borrowing costs for developing countries.

For the hundred or so Massachusetts agribusiness firms participating in our export programs, this past year has been a time when developing countries have assumed debts in massive proportions; that most of their revenues go in debt servicing; when the U.S. dollar is a powerful giant, creating an economic havoc throughout the world; when negative U.S. trade balance continues to mushroom and when protectionism is rising rapidly, further stifling world commerce. Faced with these harsh realities, increasing numbers of representatives of food and beverage manufacturing companies as well as exporters have been contacting the foreign trade section for information on the latest developments in foreign markets and for assistance in developing their marketing strategies. To this end they have been encouraged to focus their attention to the Pacific rim countries and on the export of value added products.

The Dollar's Climb Against Major Currencies

The global economic activity is shifting from the Atlantic to the Pacific. These dynamically growing East Asian countries of the Pacific rim, which have high population densities and import over 40 to 80 percent of their food consumption, now account for nearly one third of total sales abroad of U.S. farm products. The economic miracle that started in Japan is spreading from one country to another. Taiwan, Hong Kong, South Korea and Singapore have become "mini Japans". Indonesia and Malaysia with their vigorous growth and rising affluence are not far behind. Agricultural exports to this region are expected to continue experiencing a healthy rate of growth.(1,2)

There is a 100 billion dollar market out there for high value and value added products. In 1983 U.S. exports of these products were approximately 13% of the world total. If our share of the world market can be boosted to 20% by the end of the decade, it will mean a million more jobs for the U.S. economy, up to 25 billion dollars more gross national product and 8 billion dollars foreign exchange earnings each year. Since the U.S. Department of Agriculture (USDA) wants a large share of this economic pie, USDA's Foreign Agricultural Service (FAS) initiated the Value Added Promotion Program (VAPP) this year. VAPP is an export incentive matching funds program. Each participant will receive a dollar from FAS for every dollar allocated and spent towards the promotion of their product(s) overseas.

The Foreign Trade Specialist met with small groups of agribusiness company officials interested in VAPP, to assist each official in developing a marketing promotion plan (for their current regions of export and/or new global areas) geared to their product, which would yield optimum results, while still satisfying the export incentive program guidelines. VAPP is being administered through the regional export council - Eastern U.S. Agricultural & Food Export Council, Inc. (EUSAFEC).

EUSAFEC is an organization of 10 Northeast State Departments of Agriculture. EUSAFEC program committee meetings are regularly attended throughout the year. At these meetings, members formulate policies to be adopted and initiatives to be taken to increase the exports of food and other agricultural products.

An increasing number of Massachusetts firms are incorporating export trade shows into their marketing plan. They feel that an international trade show is a place to see and be seen, to make contacts, to check out competition and to use the show as a vehicle to tell their marketing story to several hundred foreign buyers, who, in turn, can examine, taste, discuss and buy the products the exhibitors have to offer. This year EUSAFEC sponsored the second U.S. International Food Show, which took place in the New York Coliseum (N.Y.C.) April 15-18, 1984. Several Massachusetts firms participated in this exposition. The general concensus among the exhibitors is that the show was an outstanding success. Here is what one Massachusetts exhibitor had to say:

> "This is our first international show. We hadn't realized what its size would be, or the number of potental buyers we would meet here. We actually wrote orders in the first hour of the show!
> --- Robert M. Ogan, Bake-N-Joy Foods"

The Foreign Trade Section is currently concentrating on disemminating information on the second NASDA National Food & Agriculture Exposition to take place in the Kansas City Convention Center (Kansas City, Missouri) April 22-24, 1985. 1985. This event is sponsored by the National Association of State Departments of Agriculture (NASDA) and the Foreign Agricultural Service of the USDA.

In the last few years, the Foreign Trade Section has been working closely with the private agribusiness firms to help them launch an aggressive international marketing program, in an effort to create a self-sustaining export momentum within the private sector. It appears that this approach has been very effective, and, of late, the Massachusetts' share of U.S. agricultural exports have been increasing dramatically as evidenced by the following excerpt from the article "Massachusetts - Exports Outpace Production and Industrial Jobs", in the September issue of Business America.

> "Massachusetts' share of U.S. agricultural exports in fiscal year 1982, including some manufactures of farm origin, totaled an estimated $24 million, double the fiscal year 1977 level. Shipments of fruit accounted for $12 million, or half of the total value. Estimated sales of $3 million each were recorded for exports of unmanufactured tobacco and vegetables.
>
> The sharp growth in exports of agricultural products from fiscal year 1977 to fiscal year 1982 accounted for 11 percent of the rise in farm sales and added to the income of Massachusetts' farmers. In this period, the export contribution to each dollar of the state's farm sales increased from 6 to 8 cents.
>
> Exports of fishery products from Massachusetts were valued at about $46 million in 1981. These shipments were two and a half times the value in 1977. The majority of these overseas sales was in fresh and frozen form. Small shipments of cured fish also were delivered to foreign markets".(3)

Bibliography

1. "East Asia and Pacific Region - Growing in Importance for U.S. Agricultural Trade", Foreign Agriculture, December 1981, pp. 4-6.

2. Joseph Fromm, Walter A. Taylor, Robert Kaylor, Robert S. Dudney and Ron Scherer, "Pacific Rim - America's New Frontier", U.S. News and World Report, August 20, 1984, pp. 45-48.

3. "Massachusetts - Exports Outpace Production and Industrial Jobs", Business America, September 3, 1984, pp. 8-10.

MARKET INVESTIGATOR
David Wood

Boston Ornamental Crop Report

The Boston Ornamental Crop Report is published twice a week by the Bureau of Markets. This effort is part of the Federal-State Market News Program of the USDA which reports the wholesale prices of fresh commodities. Prices are received voluntarily from wholesale florists at the Boston Flower Exchange. In addition, local rose growers are contacted by telephone to obtain the F.O.B. price for roses at the greenhouse. There are about 120 paid subscribers to the report. It is mailed as far away as Florida and California although it is of most interest to Massachusetts retail florists and flower growers.

Food Buyer's Guide

The Food Buyer's Guide is a weekly price survey of area retail food outlets. Prices are obtained on fresh fruits and vegetables, and fresh cuts of meat at several supermarkets. During the growing season, visits are also made to local roadside stands and farmers' markets to include retail prices of locally grown produce. The information is summarized as a high to low range for the commodities and is published with a narrative of a featured food item of the week. The Food Buyer's Guide has a mailing list of about 300, although this number varies with the time of year. It is useful to our local growers who require price information to better market their products, and is also useful to dietitians, Extension personnel and institutional food buyers.

ROADSIDE MARKETING SPECIALIST
Craig M. Richov

Massachusetts ranks sixth nationally in gross farm sales and can boast of a $30 million plus roadside marketing industry. Helping Massachusetts to remain one of the most progressive states in this field is the Department's Roadside Marketing Specialist, who visited close to 150 farms this year. His in-store evaluations and recommendations to grower-retailers are intended to further upgrade the appearance, image and success of the more than 700 farm markets throughout the Commonwealth.

A Roadside Market Newsletter is published monthly to inform growers of current marketing trends, merchandising ideas and techniques. The Marketing Specialist also compiled and published the 4th edition of "The Green Book". The wholesale directory was expanded to include ornamental crops and poultry products as well as fruits and vegetables available from our local growers and producers. He also promoted agricultural products at trade shows, fairs and on television and radio.

PUBLIC INFORMATION
Janet Christensen

The public information program for the Department covered a wide variety of topics and issues this year relating to the Department and other state agencies.

One of the most important in terms of its potential long range impact is the "Massachusetts Agriculture in the Classroom" program. Initiated by this Department, this innovative project is a cooperative one with the state Department of Education, and the University of Massachusetts Cooperative Extension Service, and it also includes representation from the Massachusetts Council for Social Studies, the state Economic Education Council and other state and regional agricultural organizations.

A successful pilot field project last Spring will be followed up with participation by as many as 100 schools this year. At present, there are four innovative curriculum units for students in grades four through six, and in the future, it is hoped that there will be units for kindergarten through grade twelve.

The project is part of a national task force established by the U.S. Department of Agriculture to encourage educational programs in each state. The Massachusetts curriculum presently integrates agricultural themes and information into four teacher resource activity units in the following areas: social studies, science, nutrition and economics.

Another unusual cooperative project in which the public information program has been involved is a proposed regional TV series on small scale agriculture. This is the outgrowth of the New England Governors Conference and the Eastern Canadian Premiers Association subcommittee concerning small scale farming. A pilot program has been produced which has been successfully reviewed by many groups and broadcasters, and it is hoped that a series of twenty-six 30 minute programs will be completed during the summer of 1985.

As usual, the Department issued news releases on various events and topics. Produce-in-season is highlighted in weekly news releases during the summer months, and throughout the year various commodities are highlighted, e.g. dairy products, maple syrup, Christmas trees and whatever is available that is "Massachusetts grown and fresher!"

Several new pamphlets were published, including various pick-your-own farm lists, a guide to fresh produce on Cape Cod, and a new one on local vegetables entitled, "For Those Who Don't Know Beans about Greens!"

Plans were also made for publishing a new brochure called "A Consumer's Guide to the Safe and Proper Use of Pesticides."

The Public Information program was fortunate to have the services during Spring semester of Maureen McCarthy, a nutrition communications graduate student at Boston University. The program has also benefited greatly from the addition of Diane Baedeker, a communications graduate of Simmons College.

BUREAU OF LAND USE
THOMAS STORROW, CHIEF

The protection of agricultural land and the wise use of our public land resources for farming and gardening are the main objectives of the Bureau of Land Use. The past year has been a productive one for the Bureau of Land Use, as over 100 farms are protected state-wide through the APR Program, positive steps have been taken to ensure continued agricultural use of our state lands, and a record number of gardeners are involved in our community gardening effort.

Outlined are presentations on the most important activities of the Bureau of Land Use.

Agricultural Preservation Restriction Program

The Agricultural Preservation Restriction (APR) Program was established by the Legislature in December, 1977, to protect the Commonwealth's rapidly diminishing farmland resources through the purchase of Agricultural Preservation Restrictions, commonly known as development rights. It is a voluntary program whereby farmland owners apply to the Department of Food and Agriculture to sell a restriction on all or a portion of their property. After field inspections, a screening and selection process, appraisals, and approval by the Agricultural Lands Preservation Committee, the Commonwealth acquires these deed restrictions, which run in perpetuity, and prohibit all activities that would destroy or impair the land for farming. Title to the land still rests with the landowner who enjoys all the traditional rights of the property ownership, such as the right to privacy, the right to lease or sell the land, and of course the right to farm the land.

Since the program's inception, more than 9,825 acres have been protected state-wide. There are also more than 11,853 acres currently under appraisal. During the past six years the Legislature has appropriated five million dollars for each of the first four years, twenty million dollars in 1983, and another five million in 1984 for a total of $45 million to fund the program. The Massachusetts program is the most intensive farmland preservation program of its kind in the country and is being used as a model by other states considering similar farmland protection techniques.

Background

An active farmland preservation role by the State's Department of Food and Agriculture has come none-too-soon for Massachusetts, as over a million and a half acres of land in farms have gone out of production in the state since World War II. During the two decades between 1951 and 1971 it has been estimated that between 11,000 and 12,000 acres of farmland were lost annually in the state because of urban conversion. The tremendous loss of farmland in Massachusetts has slowed during the past decade, but the loss of farms and farmland continues. One just has to drive around the countryside to witness new houses going up in fields and orchards that were recently in active agricultural production.

The loss of agricultural land in most areas of Massachusetts will undoubtedly continue, because the value of land for development purposes is greater than its value for agricultural purposes. The economic incentive to sell the farm for non-agricultural uses is often too tempting for a farmer to resist, or the land is simply just too expensive for the farmer's children or neighboring farmers to purchase. It is this disparity in land value for development versus agriculture that makes the Commonwealth's Agricultural Preservation Restriction (APR) Program work.

APR Program Objectives

The main objective of the Agricultural Preservation Restriction Program is to protect productive farmland through the purchase of deed restrictions and revitalize the agricultural industry by making land more affordable to farmers and their operations more financially secure. The specific goals of the Program include the following:

1. To save the best and most productive agricultural land remaining in the Commonwealth and;

2. To provide an opportunity for farmers to purchase farmland at affordable prices and;

3. To help farmland owners overcome estate planning problems and to address other personal ownership problems such as age, health, retirement and;

4. To release the equity "locked-up" in the land and therefore provide working capital to enable farm operations to become more financially stable and;

5. If other program objectives are met, to protect scenic open space and environmentally sensitive lands and;

6. To develop a positive attitude among farmers, agribusinessmen, landowners and urban residents that agriculture in Massachusetts makes an important contribution to the state's economy, food supply and rural character.

Status of Farms Already Protected

All of the farms that are currently in the APR Program are checked from time to time for compliance with the terms of the Preservation Restriction. At this time, none of the farms have been cited for violation of the restriction, and all of the land currently protected remains in active agricultural use.

During the summer of 1982 the Land Use Bureau staff conducted a research project on the status of the protected farms in terms of land use, ownership, types of farm improvements, and changes in the farm operation, with the objective of determining how the APR monies were being spent and how the preservation restriction affected the farm. A total of thirty farms were visited and interviews held with the owners. The following conclusions and statistics were drawn from these field visits.

Of the thirty farms protected, eleven (or thirty-six percent) had changed ownership since the preservation was completed. Out of the eleven farms that were sold, nine were purchased by family members or neighboring farmers and two were bought by new entry farmers. In the case of the sales to family members and neighbors, the sellers were all at or near retirement age, and they went on record as saying the APR Program helped them meet their retirement and ownership objectives. Thus, it is clear that the APR has been successful in helping farms pass from one generation to the next.

Current Status of the APR Program

There have been 107 farm properties covering 9825 acres of land protected by the APR Program since its inception. These farms range in size from a fifteen acre highly intensive market garden to 350 plus acre dairy operations. Included among these farms are apple and peach orchards, specialized vegetable farms, small fruit operations (mostly strawberries), general forage crop and livestock farms, field crops such as potatoes, cucumbers and grain corn, diversified dairy farms and specialized dairy farms. The types of farms in the Massachusetts program are an excellent cross-section of the types of food producing agricultural enterprises in the State.

The distribution of the farms reflects the major agricultural regions of the state, and the Program is continuously progressing in these areas. One of the Program's major objectives is to continue to add more restricted land in the vicinity of those farms already protected, in order to secure large areas of land for agricultural production. More and more landowners are becoming familiar with the program, and the assemblage of large blocks of protected farmland is underway in a number of towns, including Westport, Lunenburg, Dudley, Hadley, Amherst and others.

Cities and towns are actively encouraged to participate in the APR Program and local contributions now stand at $580,558. with $106,386. contributed in FY 1984. The impact of proposition 2½ appears to have had some negative impact on local contributions, but overall there is strong local support for the program and many towns are now annually appropriating modest amounts for APR purchases.

In Table 5, the distribution of APR applications is outlined on a county basis, and Worcester County is the leader with a total of 103 applications, with Hampshire County and Middlesex Counties following. There are 158 municipalities represented and considering that about one third of the 368 cities and towns in the Commonwealth are urban, there is an excellent distribution of APR applications in the farming regions of the state.

In conclusion, it is becoming more and more apparent that the APR Program is being effective in protecting the state's limited agricultural land resource. In addition, it is having the positive effect of giving strength to the industry by releasing land equity and having the cash invested back into the farm. A number of farms have been transferred in an orderly fashion to the next generation of farmers and new opportunities have been created for others to enter production agriculture. It appears that with continued modest funding and more time, the APR Program will successfully secure an agricultural future for the State, while at the same time not unduly strain the financial resources of the Commonwealth.

State-Owned Farmland

The Bureau has completed an inventory of agricultural lands which are part of Massachusetts' large Human Service institutions. Bureau staff are working closely with other state agencies to map these lands and protect them from non-agricultural uses.

Plans are nearing completion for development of a major farmers' market and extensive community gardens on farmlands once part of Worcester State Hospital. The New England Small Farm Institute is entering its third year of work on the farmland and woodlots of the Belchertown State School. The Institute is seeking funding sources to begin construction of White Oak Farm which will offer a two-year training program in commercial agriculture for new-entry farmers. The Department of Correction's Food and Farm Services continue to expand farming and food processing operations at Massachusetts correctional institutions. This will soon have a major impact on the Department's food budget. In addition, state-owned agricultural lands are being revitalized by private farmers, agricultural schools, and over twenty community gardening groups.

MEPA Review

The Land Use staff also participates in the Massachusetts Environmental Policy Act review process. The staff reviews the Environmental Notification Forms of development projects which will impact farmland and makes recommendations accordingly.

Community Gardens

In both rural and urban areas, the Bureau of Land Use continues to assist gardening groups whose main purpose is to develop and cultivate land to produce food.

The Community Gardening Program continues to further this objective and will always welcome new ideas to become more effective.

The Bureau has been developing positive interagency cooperation with other agencies in the city and state departments. The results of this group effort have developed into "Earth Moving Day" where 25,000 cubic yards of topsoil will be distributed to many disadvantaged neighborhood gardening groups. The Bureau recognizes the following Departments for their support and assistance in making "Earth Day" a reality:

1. U. Mass. Medical Center of Worcester made available the 25,000 cubic yards of topsoil.

2. Division of Capital Planning and Operations supported the concept of "Earth Moving Day."

3. Suffolk County Extension Service provided technical assistance for soil testing.

4. City of Boston provided transportation.

5. Boston Urban Gardeners assisted in the screening of applicants for the top-soil.

6. Suffolk County Conservation District encouraged and supported throughout the entire process.

Mass. Seed Program

The program provides free seeds for low income gardeners state-wide.

At wholesale prices, seeds are also offered to the gardening community-at-large.

Two different kits are offered and each kit contains ten packets of vegetable seeds which are carefully selected for their popularity, adaptability and more importantly, for their nutritional value.

The number of participants this year has increased due to the demand and need for fresh local produce. The State investment into the Seed program has benefited many rural and urban gardening groups.

Fruition Program

Massachusetts has taken the lead in promoting and planting fruit and nut trees on public lands.

This fourth year of the Fruition program has become the most productive year of harvesting. Many local groups have eagerly invited the staff to visit sites to share their successes.

Information from Massachusetts nurseries has given evidence that landscaping with food producing plants has become attractive to many of the state's home owners.

Public land that was not maintained is now productively utilized and is a more beautiful landscape.

Visitors from other states who come to Massachusetts to assess and evaluate the success of the Fruition Program have left with fine models and ideas for good land use.

Table 1. Status of Applications Received -- June 30, 1984

	Number of Applications	Acres	Actual Purchase/ Estimated Purchase Price*
A. Acquisition Complete	107	9825	$15,084,502.
B. Under Purchase and Sale Agreement	17	1711	2,740,700.
C. Currently Under Appraisal	98	11853	18,964,800.*
D. Appraisal Completed, but Landowner refused offer.1	43	5572	10,029,600.
E. Eligible projects awaiting action.	47	4919	7,870,400.*
F. Little Likelihood of funding due to low rating.	116	9934	15,894,400.*
G. Rejected.	18	635	1,016,000.*
TOTAL	446	44449	$64,517,402.

1 Landowners have initially refused offer; however, circumstances may change and the projects can become viable at anytime.

* Denotes estimated purchase price calculated by multiplying $1600. (state-wide average cost/acre) times the acreage of each group.

TABLE 2. SUMMARY OF APR PROGRAM EXPENDITURES FOR ADMINISTRATIVE EXPENSES: FISCAL YEARS 1980 - 1984.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984	TOTAL
Market Value Appraisal Services	$62,420.	$106,796.	$ 91,147.	$ 88,827.	$177,549.	$526,739.
Farm Value Appraisal Services	$25,750.	--	$ 9,112.	$ 4,601.	$ 23,838.	$ 63,301.
Review Appraisal Services	$ 8,891.	$ 13,258.	$ 27,349.	$ 36,267.	$ 34,555.	$120,320.
Legal Services	--	$ 7,427.	$ 47,482.	$ 26,664.	$ 56,628.	$138,201.
Supplies and Equipment	$ 1,900.	$ 1,358.	$ 499.	$ 2,620.	$ 1,515.	$ 7,892.
Municipal Contributions For Services	$ 663.	--	$ 1,650.	$ 750.	$ 12,224.	$ 15,287.
Total Program Administrative Expenditures	$98,961.	$128,839.	$177,239.	$159,729.	$306,309.	$871,740.*
Net Program Administrative Cost To Commonwealth	$98,298.	$128,839.	$175,589.	$158,979.	$294,085.	$856,453.

TABLE 3. SUMMARY OF AGRICULTURAL PRESERVATION RESTRICTION ACQUISITION EXPENDITURES: FISCAL YEARS 1980 - 1984.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984	TOTAL
Number of Acquisitions Completed	3	16	23	41	24	107
Number of Acres	287	1267	2099	3929	2243	9825
Acquisition Cost ($per acre)	$545,000. ($1898)	$2,418,725. ($1909)	$3,631,850. ($1730)	$6,313,925. ($1607)	$2,755,560. ($1218)	$15,665,00 ($1594)
Municipal Contributions that offset Acquisition Costs	$ 91,087.	$ 93,800.	$ 175,935.	$ 113,350.	$ 106,386.	$ 580,55
Net Program Acquisition Costs To Commonwealth	$453,913.	$2,324,925.	$3,455,915.	$6,200,575.	$2,649,174.	$15,084,50

TABLE 4. TOTAL APR PROGRAM COSTS FISCAL YEARS 1980 - 1984.

Total Program Costs	$16,536,740.
Total Program Costs to Commonwealth (Total Costs Minus Municipal Contributions)	$15,940,955.

* Administrative Expenditures are 5.2 percent of Total Program Expenditures.

Table 5. County Location and Number of APR Applications Received as of June 30, 1984.

County	Municipalities Represented	Number of Applications	Acreage
Barnstable	4	4	312
Berkshire	8	23	3,444
Bristol	12	41	3,421
Dukes	3	5	394
Essex	13	42	3,393
Franklin	11	28	3,453
Hampden	10	31	3,117
Hampshire	15	75	6,442
Middlesex	24	49	3,920
Norfolk	8	17	1,157
Plymouth	15	28	2,996
Worcester	35	103	12,400
TOTALS*	158	446	44,449

*Approximately 100 new applications are received each year, of which about one-half may be approved.

DIVISION OF ANIMAL HEALTH
Mabel Owen, Director

With a professional field staff of four Veterinarians, four Animal Inspectors and six Poultry Inspectors, plus an administrative and record keeping staff of seven, the Division of Animal Health monitors, controls and works to eradicate a number of diseases having major impacts on our domestic food, fiber and companion animals. The work is both industry and consumer protective as it assures the former a sound and marketable product and the latter a safe, cost-effective and readily available food supply. The Division works under certain sections of Chapter 129 of the General Laws, most of which address specific diseases by way of market surveillance, import requirements, vaccinations, sale restrictions and other means of control. The FY84 Budget for Animal Health was in the amount of $600,635.52, broken down in 12 subsidiaries. The sum of $451,192.00 (01 and 02) was directly allocated to personnel costs.

BRUCELLOSIS:

Massachusetts, for a second year, is rated "Free" in this important bovine and porcine disease. Found in man as Undulant Fever, brucellosis accounts for severe animal losses in other sections of this country. All of New England, as well as the neighboring states of New York and Pennsylvania are totally free of this disease, an important factor to the entire area's dairying industry. Remaining disease-free requires a strong, on-going program of milk and slaughter plant testing, the vaccination of almost 15,000 female calves every year as well as the 45-60 day post-entry retesting of all imported cattle. The maintenance of "Free" status also requires the continuing cooperation of all owners, breeders, dealers, producers, veterinarians and regulatory personnel. It receives the Division's highest priority.

TUBERCULOSIS:

Since small pockets of this disease still exist in humans the world over, especially in urban areas, tuberculosis remains, even in these modern times, a disease of importance. Our best protection is the availability of milk from TB-free herds. Massachusetts reached the status of "Accredited Free" in Tuberculosis in FY84. It has been more than six years since a reactor was found here. Continuing surveillance against the disease is most necessary. All dairy cows are tested, at state expense, once every three years. Many are actually tested annually, at owner expense, in order to satisfy certain out-of-state markets. The testing program itself has been placed on a town-wide rather than individual herd basis. This has already accomplished material savings, in both personnel hours and mileage.

SWINE DISEASE:

We believe Massachusetts to be free of Swine Pseudorabies. Contributing to this was the passage of a law requiring all imported breeding swine to be certified free of this disease. At the end of FY84 swine brucellosis was known to be present on three premises, all of which were under eradication agreement. The Federal Garbage-cooking Law was fully implemented in FY84 and resulted in several non-compliance hearings with guilty findings and fines in at least two cases. The Division of Animl Health and Food and Agriculture Commissioner Frederic Winthrop were instrumental in obtaining several important concessions under this law.

EQUINE PROGRAMS:

Licensing programs for Riding Schools, Riding Instructors, Horse Auctions and Horse Transporters provide the major source of income for the Division. All three are both consumer and animal protective in intent and have always had a great deal of industry support and interest. The quality of riding instruction available in the state is excellent. Riders from here have won major nationwide equitation championships as well as medals in both of the most recent Olympic Games. Despite press releases and urging by the Veterinary profession, three horses died of Eastern Encephalitis and two persons contracted the disease, one fatally. Mosquito-borne and almost invariably fatal to the non-vaccinated equine, this disease loss, in horses, would be preventable if a 100% vaccination rate could be obtained. Although both horse and man contract this disease, it is not transmissible from horses to people.

PET SHOP LICENSING:

Pet Shop Licensing, with attendant inspection by Agents of the Massachusetts Society for the Prevention of Cruelty to Animals and the Animal Rescue Leagues of Boston and New Bedford has been credited with an improvement in the health and welfare of the small domestic animals and pets sold therein. With greatly improved knowledge of the disease and systems of vaccination, the presence of parvo-virus in pet shops declined dramatically in FY84. Although no Velogenic Viscerotrophic New Castle Disease-exposed birds were reported in the state, the traceback capability provided by mandatory pet shop record-keeping continued to provide us with a large measure of insurance against this potentially devastating poultry disease. Interest in the public health aspects of Pscittacosis (Parrot Fever) continues high and the Division participated in a Chlamidia workshop held in New Hampshire in May of 1984.

POULTRY:

FY 1984 was marked with the outbreak, in Pennsylvania and nearby states, of Avian Influenza, resulting in losses in excess of 70 million dollars and 17 million birds. With its own three million bird poultry industry to protect, Massachusetts took a number of steps to prevent its entry here. An Emergency Order banning poultry shows and sales and the entry of all poultry products from the quarantined area, plus requiring a Prior Entry Permit for all poultry and the cleaning and disinfecting of all vehicles transporting fowl into or through the state, was filed with the Secretary of State. Informational meetings were held across the state for industry poultrymen and exhibitors. An Emergency Disease Outbreak Contingency Plan was written, outlining procedures and personnel responsibilities in the event of the disease's appearance here. The Division was aided materially in this effort by the Massachusetts Poultry Association, the Massachusetts Farm Bureau Federation and many state agencies, including Civil Defense, the Offices of Administration and Finance, the State Police and the Department of Environmental Quality Engineering. The disease itself had subsided considerably by the end of FY84 and the outlook was bright for the release from Quarantine of Pennsylvania's large poultry-producing counties. The enormous costs of this disease, as well as its wildlife rate of spread, made it the nation's most costly domestic animal disease outbreak in recent years. On a more optimistic note, a number of Massachusetts poultrymen attended the 50th National Poultry Improvement Plan (NPIP) meeting in Minneapolis in 1984. Since Massachusetts was one of the first states to be certified Pullorum-free and had been a pioneer supporter of the program, the state itself was cited as were many residents who either are still or have been active in the NPIP.

RABIES:

The Division, through town Animal Inspectors or Animal Control Officers, issues quarantines whenever a person is reported to have been bitten by an animal. This program, together with laws mandating rabies vaccination for all dogs, provides on-going protection against rabies, a disease which is usually fatal when contracted by humans. With rabies in wildlife (raccoons) on the increase in the mid-Atlantic states, vigilance against it has been stepped up throughout the Northeast. Guard Dog Business licensing was inaugurated in FY 83 and had its first complete year in FY84 with 14 businesses licensed. Many were inspected and one was closed after court action against the owner. This program is animal protective in intent and the MSPCA and ARL's are the principal inspecting agencies. A new law, requiring the licensing of Hearing Ear Dog Training Kennels, was passed in FY84. Hearings for rules and regulations to permit inspections and licensing are scheduled for early FY85.

MAJOR PROBLEMS:

At the close of FY84 the Division of Animal Health cites the following problem areas:

1. Further and continuing disintegration of the large animal diagnostic services at Paige Laboratory, University of Massachusetts, Amherst. Mastitis testing, large animal diagnostics and poultry testing programs there are understaffed and undersupplied. On the managerial level interest in these services is minimal. Via a contract, the Division of Animal Health provided the sum of $14,000 to upgrade testing there. This was truly the proverbial drop in the bucketful of need. A very large sum, at least $500,000, and awakening interest from the College of Food and Natural Resources is desperately needed.

2. The Division of Animal Health itself is operating at 80% of its permitted personnel base. At the end of FY84 it had nine operating vehicles - out of a base need of fifteen. Vacant positions cannot be filled unless cars are provided. State cars currently in use by the field staff are on lease to the Division by the Motor Vehicle Management Bureau.

The two problems listed above are crucial to the operation of the Division of Animal Health. Without fully capable and prompt diagnostic services, animal diseases spread rapidly, increasing with each day the monetary value of the losses incurred. Without a full complement of professional and office help, the records for disease control cannot be maintained nor can field surveillance be completed. Testing is well below 100% as is vaccination. Disease prevention is cost effective; disease outbreaks cost millions.

IN CONCLUSION:

We have met many goals of disease eradication. The Commonwealth rates "Free" in Bovine Brucellosis, "Accredited Free" in Tuberculosis, "Pullorum Free" in poultry. We have this with dedicated field and office personnel, with the help and cooperation of farmers, veterinarians, members of Massachusetts Farm Bureau Federation, the USDA-APHIS people, the humane societies, the University of Massachusetts, the Waltham Field Station and many, many others. We have also had the support of the Commissioner of Food and Agriculture, the Secretary of Environmental Affairs, both houses of the Legislature and the Executive Office. We feel this state's enviable status, in major animal disease areas, mirrors this joint effort.

DIVISION OF FAIRS
Stephen F. Quinn, Director

The "fairs", one of the oldest and finest traditions still in existence in the Bay State, continue to "bask in the sun", with another great season full of exhibits, entertainment, rides and games galore. The total attendance reported by the 120 agricultural fairs and shows was 3,985,284, a slight decrease from last year's record breaker. There were 81,854 exhibits of which 30,191 were prepared by individual young people or youth groups.

The State Exhibition Building at Eastern States Exposition in West Springfield continued to please fair goers with all kinds of samples of foods produced and processed in the State. The key feature of the show was the beautiful art and craft exhibit developed by the Leverett Craft Center featuring Western Massachusetts artists. 1,005,730 people attended the "Big E" in the fall of 1984.

The fairs were inspected with the help of ten part-time employees, all of whom have considerable experience in Massachusetts agriculture. Their duties, among others, were to insure that the state was benefiting from the $340,000 spent on agricultural promotions and that the $87,500 spent for rehabilitation monies were used wisely.

The Rehabilitation Committee met in Ashland in February, and approved $87,175 worth of expenditures for animal health, public health, and display purposes.

The Division continued its assistance with the Massachusetts Wool Board in promoting the use of wool and lamb products, and also actively participated in the third annual Equine Exposition held in Northampton.

A study group, composed of members of the various commodity associations in the state, was formed to revise the fairs' guidelines. They met at the State 4-H Center in Ashland. After many meetings and much debate, the guidelines should be ready for the Commissioner's approval by late fall and be available to the fairs by mid winter. The guidelines had not been updated since the early 1950's; needless to say, the revisions were long overdue.

The total appropriated budget for the fiscal year was $647,440. Of this total, $399,100 were appropriated for the fair prize awards, fair inspections, promotional programs, and administration costs; $87,500 were appropriated for the rehabilitation program to assist with the upkeep at fairgrounds.

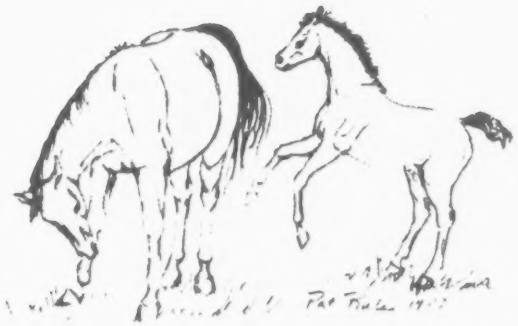
STANDARDBRED PROGRAM
Stephen Quinn

In the past 3 years we have seen many gains in the Standardbred industry in Massachusetts. Our brood mares bred list has increased from 125 to 400. Stallions fluctuated from 45 to 84 to 64, a normal curve for the industry, showing it to be leveling off around 65 with the quality much improved. We also have increased the number of acres dedicated to Standadrbred production from 3,000 to over 6,000 including the ultra modern facility just completed, Young Meadow Farm in Hadley, at an investment of over 5 million dollars.

The new reorganization legislation of the Department of Food and Agriculture, includes a new Division of Equine Programs. It has provisions for one Director, two Supervisors, a field inspector and a clerk. This certainly will be welcomed by the industry as many of their wants cannot be attended to at this time under the current system.

This year's program included a spring and fall series at Foxboro with the finalists among 3 year old pacers competing for a $40,000 purse. Seven fairs and farm facilities were utilized to sponsor our mini-series across the state. This provided good visibility for the program and introduced harness racing to many people statewide. The state spent $400,000 promoting Standardbred farms while the industry added $47,166 from sustaining and entry fees.

The Standardbred Agricultural Fair and Breeding Fund Committee met several times during the past year to assist the Commissioner in continuing to develop a program that will increase the breeding within the state.



THOROUGHBRED BREEDING PROGRAM

Peter Bundy

The Massachusetts Thoroughbred Breeding Program continued to be an effective incentive program, as the numbers of Thoroughbred horses being bred in Massachusetts has more than tripled since passage of Chapter 558 of the Acts of 1981.

The breeder, stallion, and owner awards of 25 percent, 15 percent and 5 percent of purses won by eligible Massachusetts bred horses amounted to $256,003.86 for the past fiscal year. These cash awards were paid for racing at Suffolk Downs and four agricultural fairs.

At these racing meets, Massachusetts breds went postward 1,002 times, accounting for 90 wins, 115 seconds, and 126 thirds. These numbers are not impressive in the light of past years' figures, but they reflect a trailing off of horse breeding prior to the advent of the new legislation. When the crops of foals bred subsequent to 1981 appear at the racetracks, these figures will be most impressive and continue to grow.

Ten stake races for Massachusetts breds were run at Suffolk Downs during the past year. Only one race was run as a non-betting event, while the others were pari-mutuel, and generated much interest. The breeding program funded $157,500 toward these races, and the share from Ogden-Suffolk Downs was $67,500.

Nearly 400 mares were bred in Massachusetts last year, and over 60 stallions of good quality were registered with this Department.

The Massachusetts Thoroughbred Breeders Association, founded in 1981, has been very effective in promoting Thoroughbred breeding in Massachusetts. This association has promoted farm tours, breeding and management seminars, yearling shows, horse sales and various activities that have been of vast help to the Commonwealth's horse farmers.

DIVISION OF REGULATORY SERVICES

A significant part of the mission of the Department of Food and Agriculture is the regulation of the agricultural industry and certain related industries which supply goods and services to agriculture.

This regulation has two purposes: protection of agriculture (i.e. quarantines and regulation of the quality of seed, feed and fertilizer) and protection of the consumer (i.e. regulation of the quality of certain farm products and pesticides).

The reports of the five bureaus which make up this Division follow.

BUREAU OF MILK MARKETING
John B. Kelley

The Bureau of Milk Marketing continues as in the past to audit handlers in state regulated areas on an on-going basis to insure proper producer payment, calculates and announces monthly official, mid-month official, mid-month equivalent and official Class I prices.

The Bonding and Security responsibility of the Department of Food & Agriculture under Chapter 94A remains with the Bureau. Using several monitoring procedures, security requirements of preparatory handlers buying milk from independent producers all are received on a monthly basis. Individual handler audits are conducted when necessary with security now held by the Department in excess of one million, one hundred dollars.

A recent addition for the protection of independent producers shipping to proprietory handlers has been the enactment of the Producers Security fund. The purpose of the fund is the reimbursement of Massachusetts producers who sell milk to a dealer and said dealer has defaulted in the timely payment of said milk under the provisions of Chapter 94A. The agency prepares and mails security fund payment vouchers to the dealers. The dealer then deducts .05 per cwt from each producer's final monthly check. The applicant's check is then forwarded to the Massachusetts Department of Food & Agriculture and deposited with the State Treasurer. The total monies are then invested with the Massachusetts Municipal Depository Trust.

The licensing of 4,600 milk dealers at both wholesale and retail level continues. Presently there are approximately 4,000 stores, 350 regular dealers and 200 milk testers and 50 bulk tank drivers licensed. The licensed bulk tank drivers are checked for compliance and proper techniques used in taking fresh milk. Check testing of milk samples is done to ensure proper payment to producer when amount of payment is in dispute.

Finally the Bureau continues to fulfill its assigned functions in requiring compliance with state laws aimed at preventing disruptions in various milk markets throughout the Commonwealth.

BUREAU OF DAIRYING
DAVID L. SHELDON, CHIEF

Throughout the 1984 fiscal year the Bureau of Dairying has diligently pursued its main objective of ensuring the consumers of Massachusetts an adequate quantity of fresh fluid milk with an overall quality level second to no other state.

We were able to bring our staff up to the authorized total of fifteen persons, which is only one less than we had been authorized two years ago. Our office secretarial staff remains at two persons; however, we are becoming more productive in the office as procedures are adjusted for increased efficiency.

Our main workload as authorized by Chapter 94 of the General Laws involves the inspection of dairy farms and milk plants shipping into Massachusetts markets. Our effectiveness was greatly enhanced when we were able to fill the vacant positions. We now have one resident inspector in New York State, two resident inspectors in Vermont, one in New Hampshire and one in Maine.

The Bureau has had requests for information on the requirements to sell aseptic milk in Massachusetts from dairy companies located in the States of Georgia, California and Utah. Current Chapter 94 Laws, which regulate the sale of fluid milk products in Massachusetts, do not allow the sale of aseptic milk and if the issue were forced, we would have to send inspectors to these distant locations to inspect the farms and plants.

The Interstate Milk Shipper's Program generated a great deal of interest and work for our Bureau with requests for eight separate I.M.S. ratings coming into our office. We are continuing to make a concerted effort to comply with the requirements of the Interstate Milk Shipper's Program and keep the inspection status of our Massachusetts producers at a level of compliance, which satisfies all persons concerned.

The Chief of the Bureau met with all persons involved with the Mastitis program at Amherst to try and improve the program for our Massachusetts dairy farmers. Several good ideas were exchanged and as a result of the meeting, a survey form has been drafted to use on all participating dairy farms, in an attempt to cover all aspects of potential problems causing Mastitis. This form is now in use and our field people report initially that it seems quite helpful in identifying problem areas.

The Mastitis Laboratory reports that they have approximately 350 Massachusetts dairy herds involved in the Mastitis program.

The Bureau continued its cooperative program with the USDA and spent a total of 26 days sampling milk powder and nine days conducting inspections at the Agri-Mark, Inc. plant, West Springfield. The combined powder sampling and inspection program for USDA netted a total of $3,028.62 which was returned to the state Department of Food and Agriculture by USDA.

The number of producers in Massachusetts continues to decline. On July 1, 1983 we had 772 producers holding Certificates of Registration. This figure has declined to 727 producers holding Certificates of Registration on July 1, 1984.

Total milk production had been up slightly each year even with the drop in producers; however, with the dairy diversion program in effect we expect that our production will be level to slightly declined.

On January 1, 1983 we issued 7,504 Certificates of Registration in our out-of-state inspection areas and on January 1, 1984 we issued 7,592 out-of-state Certificates of Registration, representing a slight increase in our out-of-state producer numbers. The milkshed in which these producers are located remained about the same with no large new area added.

BUREAU OF DAIRYING

FISCAL YEAR 7-1-83 - 6-30-84

FARMS

Dairy Farms Inspected: 7,295 Approved: 5,786 Not Approved: 1,509
Dairy Farms Reinspected: 1,597 Approved: 1,258 Not Approved: 339
Ten Day Letters sent to producers on reinspection for failure to correct violations on the inspection report: 229.
Hearings held: 9
Farms suspended for failure to comply after receiving a ten day letter and/or a hearing being held: 17. Farms reinstated: 11.
Other Farm Visits: 903

PLANTS

Milk Plants Inspected: 91 Approved: 72 Not Approved: 19
Dealer visits: 246 Plants spot checked: 6

SAMPLES

Water Samples collected: 68

MASTITIS

Herds Sampled: 649 Cows Sampled: 35,547 Samples Collected: 140,615

TRANSPORTATION

Tank Trucks inspected: 12

DEALER REGISTRATION

A total of 150 Milk Dealers registered with the Bureau during the fiscal year as required by Chapter 94, Section 16F of the General Laws.

The Bureau of Dairying personnel traveled a total of 306,750 miles during the fiscal year.

In conclusion, I would like to take this opportunity to thank Frederic Winthrop, Jr., Commissioner, all personnel in our Bureau and all other support staff in the Massachusetts Department of Food and Agriculture for their fine cooperation througout the 84 fiscal year.

BUREAU OF FARM PRODUCTS
James M. Cassidy, Chief

The Bureau supervises a diversified farm product quality control regulatory program including the Federal-State Fruit & Vegetable Shipping Point Inspection Service and enforcement of the "truth in labeling" laws for feed, seed, fertilizer and limestone programs. In addition, the Bureau regulates certain produce branding labeling and storage laws, and collects approximately $100,000 per year in registrations and inspection fees which are turned into the Commonwealth's Treasury.

The Shipping Point Inspection Program is regulated by a memorandum of understanding contract with the U.S. Department of Agriculture. All other regulating functions are under the provisions of Chapter 128, General Laws of Massachusetts as amended.

Federal-State Shipping Point Inspection Program:

For 75 continuous years all State Departments of Agriculture in the nation have cooperated with the U.S. Department of Agriculture in providing this service for each state's own fruit and vegetable products. This program allows the fully trained and licensed Massachusetts inspector to issue USDA certificates on shipments of fruit and vegetables, attesting to the grade, quality and condition which are needed by buyers and receivers at terminal markets.

For many years the Inspection Service in Massachusetts, through strict adherence to grades and other essential data, has done much to upgrade the quality, condition and grade of the final product. Massachusetts leads the world in the production of cranberries and many shipments of this product carry a Massachusetts Federal-State certificate.

By law, all apples must be inspected for export and our inspection service has been instrumental in helping Bay State farmers maintain this lucrative market. The inspection service has aided in developing new methods of transportation, especially in this export field.

In 1983, demand for our inspection service again has been on the shipment of export apples, mainly to the United Kingdom and Canada. Apples are also inspected for shipment to California where the demand has been increasing each year, and for military purchases.

The export apple inspection is of major importance, due primarily to the demand and acceptance of "controlled atmosphere" stored apples, our valuable McIntosh variety and our quality packs. McIntosh apples cannot be grown successfully in European countries. The controlled atmosphere method of storing apples greatly lengthens the marketing season and allows shipment of apples in good condition well into June, thus providing a more orderly marketing season for the entire apple industry.

Inspection certificates are also issued for potatoes and onions in the Connecticut Valley area and cranberries on Cape Cod.

Feed Program:

1,992 labels of animal feed, ingredients, pet foods and medicated feed ingredients were reviewed and registered during the past year. Samples of products offered for sale were drawn and tested at the West Experiment Station, University of Massachusetts for conformance with label.

Fertilizer Program:

842 labels of fertilizer and limestone were reviewed and registered. Tonnage taxes were assesesed and collected semi-annually. Assessment penalties in shortage of guarantee level were levied and $7,101.30 in appropriate fines collected and either turned back to the farmer or submitted to the Commonwealth's Treasury.

Seed Program:

566 brands of seed, including agricultural lawn mixtures, vegetables, flower tree and shrub seeds were collected and tested for truth in labeling. 48 stop sale orders were issued on violations, covering 1,716 packages. Seed was removed on account of poor germination, noxious weeds, or because it was unfit for seeding.

A major change in the state's lawn seed labeling regulation was implemented on January 1. Massachusetts becomes the first state in the country to move for a uniform seed label that will be accepted in all shipping areas.

Lime Program:

32 limestone brands and grades were registered and checked for conformance to label during the year.

Branding Law:

Inspections were made at wholesale, retail, roadside, and farm level to enforce the apple, potato and native laws. Misbranded products are relabeled or removed from sale. Over 3,000 retail stores were inspected, several hundred wholesale and packing house operations were inspected.

Storage Laws:

Records are kept on cold storage and controlled atmosphere apple rooms in order to attest to their compliance with such laws and so to allow such stored products to move into certain prohibited market areas of the country.

The Bureau, through strict adherence to laws, grades, label reviews and other essential data, has done much to upgrade the quality, condition and grade of the final farm product being offered for sale in Massachusetts.

The programs are continuous and reflect the general agriculture crop conditions and the current market situations. The uniform laws and grades allow for the free movement of theses products in interstate and export commerce with a minimum of difficulty. The honest label approach insures the consumer of an accurate farm product of good quality.

Programs are becoming more accurate and more smoothly administered due to better management and informed and trained personnel. The use of a word processor for the registration of feed and fertilizer brands and the recording of the collection of fees and tonnages has improved the programs in general.

Working with other states, USDA, FDA and the various regulated industries has insured a quality farm product that is more easily marketed by the producer and the shipper.

BUREAU OF FARM PRODUCTS STATISTICS

SEED INSPECTION PROGRAM/OFFICIALLY TESTED

	1981	1982	1983	1984
Agriculture	54	61	48	61
Mixtures (lawn)	100	57	47	33
Vegetables	445	507	409	361
Flowers	173	215	125	101
Sprouts	-	-	8	10
	772	840	637	566

40 stop sales orders covering 82 lots on 738 packages of seed removed from sale-poor germination, noxious weeds, unfit for seeding, out of date test. 5 cases turned over to the Federal Seed Act for USDA action.

FRUIT & VEGETABLE INSPECTION REVENUE - FISCAL YEAR

	1981	1982	1983	1984
Apples	$11,084.50	$6,012.06	$8,822.93	$8,678.15
Cranberries	----	220.00	360.00	280.00
Onions	219.10	32.00	700.70	314.02
Potatoes	826.68	157.50	613.81	920.24
	$12,130.28	$6,421.56	$10,497.44	$10,192.41

FEED FERTILIZER AND LIME REGISTRATION - CALENDAR YEAR

	1980	1981	1982	1983
Feed/a	1,922	1,857	1,939	1,992
Fertilizer/b	732	729	691	810
Fertilizer/c	12	12	13	20
Lime	31	31	30	32

FEED, FERTILIZER AND LIME REVENUE - CALENDAR YEAR

	1980	1981	1982	1983
Feed/a	$48,050.00	$46,425.00	$48,475.00	$49,800.00
Fertilizer/b	18,300.00	18,225.00	18,525.00	20,250.00
Fertilizer/c	1,500.00	1,500.00	1,625.00	2,500.00
Lime/d	775.00	775.00	750.00	800.00
Fertilizer/e	15,722.29	12,952.31	10,571.53	11,888.14
Fertilizer/f	3,929.57	2,760.54	3,858.78	7,101.30

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

TOTAL - $92,339.44

Registrations and revenue are collected on a calendar year for feed & fertilizer.

Revenue generated by inspection and registration fees totaled $102,531.85.

BUREAU OF PLANT PEST CONTROL
P.C. Kuzmiski, Chief

The 1983 growing season was marked by a cool wet spring followed by the hot and dry months of July and August. This caused a flush of new spring growth only to be subjected to the high heat and semi-drought conditions of the summer. Many nurseries experienced the problem of keeping their stock watered. As a result, many plants such as dogwood, flowering crabs and azaleas showed symptoms of wilted foliage and presented a dry appearance.

Some of the insect species detected by our nursery inspectors vary from year to year and from location to location within the state. The prevalence of the Gypsy Moth and Japanese Beetle are prime examples of this situation. Most major insect pests of nurseries could well be listed in a few general headings or categories. These categories would be, defoliators, scale insects, borers, leaf hoppers and miners, aphids and mites.

Control in most cases would be similar for the insects grouped into a single category. To have effective control of insects in a nursery there must be a systematic or organized program of insect pest management. The timing and application of the existing insecticides is as important as is the monitoring of the insect pest problems. There may not be many new insecticides appearing for use in the near future.

Insects commonly found in the nurseries were leaf chewers, leaf-tiers, aphids, scales, borers, and gall makers. Birch leaf miners continued to be heavy on Gray Birch stock. Japanese Beetles were found throughout but only sporadically in high concentrations. The Gypsy Moth was found principally in the Southeastern part of the state including Cape Cod. This pest did not present a major problem to the nurseries this year.

Leaf scab and leaf spot fungi infections and mildew were noted in the nurseries during the summer months.

Some nurseries continued the practice of containerized growing of their stock and utilizing the drip method of irrigation. This is an increasingly popular method of growing nursery stock and is being accepted by more growers each year.

The following is a summary of the fiscal 1984 Bureau activities:

NURSERIES AND GREENHOUSE INSPECTION

No. Nurseries inspected - 340
No. Greenhouses inspected - 48
No. Nursery Agents licensed - 295

GYPSY AND BROWN TAIL MOTH

G.M. Acres defoliated 1982 - 1,383,265.
G.M. Acres defoliated 1983 - 217,548.
Brown-tail Moth still found in small infestations of Cape Cod.

PLANT PEST SURVEYS

Surveys were completed for presence of the Gypsy Moth in lands around nurseries, and for the European Chafer, Golden Nematode of potato, and Red Steele Disease of strawberry. No new finds of these pests were recorded this year.

CURRANT AND GOOSEBERRY CONTROL AREA PERMITS

21 control-area permits allowing the planting of these plants in non-prohibited ares were issued. This permit shows the name and address of the shipper, number of plants shipped and the name and address of the consignee.

PLANT EXPORT CERTIFICATION

State plant phytosanitary certificates issued - 86.
State tree and shrub seed certificates - 662.
Federal export certificates issued - 86.

COLLABORATION WITH USDA - APHIS

Cooperative survey activities continued with USDA in Gypsy Moth, Black Stem Rust, and Pest Detection programs.

The Bureau is also active in the Cooperative National Plant Pest Survey and Detection Program.

POST ENTRY QUARANTINE

This year there were 35 sites recorded as growing postentry nursery stock. This is plant material from foreign countries growing here under quarantine. The stock must remain in detention for two growing seasons before it is eligible for release. Inspections and releases from quarantine were made with the cooperation of federal plant inspectors.

APIARY INSPECTION

The apiary inspection report will be included in this annual report.

APIARY INSPECTION

Alfred R. Carl, Jr.
Chief Apiary Inspector

This was a very productive year for beekeeping in Massachusetts despite adverse weather conditions; while there was no bumper crop, there was an impressive average of production.

Moderate temperatures and precipitation during April and May influenced the uninterrupted flying time field bees had to collect nectar and pollen from pussy willow, red maple, dandelions, and fruit bloom. These conditions stimulated rapid hive population expansion ultimately contributing to excessive swarming in late May and June in most Massachusetts counties. Conversely, June was extremely cloudy and rainy. The entire early summer flow was drastically diminished; honeybees were unable to forage for nectar and pollen due to inclement weather.

No significant rain fell during July and August of 1983. Fortunately the excessive rain that fell in June and extremely warm summer hastened the development of a very prosperous and abundant goldenrod population. Up until August 20, 1983 many colonies were bone light; then a warm Fall enabled most hives to store a substantial crop. Severe frosts did not occur until mid-October.

As in recent years, the 1983 honey crop did not sell as anticipated. Honey imported from China, Argentina, and Mexico has dominated honey sales on the wholesale level. Commercial beekeepers are unable to compete cost-wise with beekeepers from developing and third world countries. Honey can be delivered and sold in bulk quantities at U.S. ports for far less than it can be produced in the United States.

Commodity Credit Corporation, an instrument of the USDA's Agricultural Stabilization & Conservation Service, has instituted a loan program for honey that commercial beekeepers have been unable to sell on the wholesale market. In most cases the beekeepers default on their loans and the USDA keeps their honey. This program has spurred commercial beekeepers in highly productive parts of the country to produce honey specifically to place under loan agreement. CCC honey is either sold to commercial honey packers at about the same price as foreign honey (which is quite a bit less than the initial loan) or given to people who receive public assistance under USDA food programs.

One school of thought suggests a subsidized price support with the USDA supplying the difference between what packers will actually pay for USDA honey and a fixed parity price according to grade. This move would hopefully enable U.S. honey to recapture a greater percentage of the present market.

Another school of thought in Washington has proposed to do away with CCC loans all together, forcing commercial beekeepers to fend for themselves. This recommendation could result in a reduction of commercial beekeepers. Crops requiring pollination such as alfalfa seed production, apples, citrus, blueberries, cranberries, etc. would suffer from the scarcity of honeybee colonies. Pollination rental fees would increase due to a short supply and great demand.

The winter of 1983-1984 proved to quite average. A few cold snaps did not harm the majority of overwintering colonies in Massachusetts. The timely goldenrod nectar flow during the fall of 1983 did much to facilitate an above average number of colonies still flying in early April (1984). Without it, a substantial number of our honeybees would have been lost. March through late May proved tc be seasonally normal as in 1983. Most apple growers managed to set commercial crops of fruit. Honeybees played a significant role in pollinating this crop along with Massachusetts beekeepers who moved their colonies into the orchards.

Rain in late May deluged most of the state; major flooding particularly in the Connecticut River Valley took place. Honeybees were unable to forage for about two weeks because of all the precipitation. As in 1983, the early summer honey flow was a complete wash-out.

I was not the chief apiary inspector for the last half of 1983; therefore, I am unable to comment on the activities of the program for that period. All counties except Middlesex, Norfolk, Barnstable, Suffolk, Dukes, and Nantucket were inspected to some degree; most 100%. The apiary statistics for 1983 indicated favorable conditions found through inspection in a majority of the Commonwealth's honeybee colonies. American Foul Brood was found in about 3.7% of the colonies inspected. A statistical report for FY84 apiary inspection accompanies this report.

For the first time the apiary files were consolidated and typed, enabling easier access and workability.

Interviewing and evaluating the potential of apiary inspectors to be hired for 1984 inspection season took place in April and May. Five inspectors were hired in late May. These inspectors were either high school teachers or college students; all were on summer vacation and looking for part time employment. One female and four males were hired. Their interests included biological science and a keen interest in apiculture.

Berkshire, Franklin, Hampshire, Hampden, Worcester, Middlesex, Norfolk, and Bristol Counties were assigned. I was unable to find knowledgeable and apiculturally experienced applicants for Essex, Plymouth, Barnstable, and Dukes Counties. If weather conditions are not too inclement, apiary inspection should be continued in assigned counties as in previous years.

ANNUAL STATISTICAL REPORT

Massachusetts Department of
Food & Agriculture
P.C. Kuzmiski, Chief
Bureau of Plant Pest Control

APIARY INSPECTION

Season 1984

COUNTY	No. of Beekeepers	No. of Colonies Examined	No. of Colonies Owned	No. of Colonies w/AFB	No. of Colonies w/EFB	No. of Colonies Ordered Treated	No. of Colonies Ordered Destroyed
BARNSTABLE	0	0					
BERKSHIRE	152	395	505	14	6	16	4
BRISTOL	275	2409	3042	28	32	58	2
DUKES	35	145	145	0	0	0	0
ESSEX	298	1025	1953	0	0	0	0
FRANKLIN	154	498	523	26	8	25	9
HAMPDEN	190	615	975	12	7	9	10
HAMPSHIRE	172	580	610	7	9	14	2
MIDDLESEX	438	3155	3666	53	42	65	30
NORFOLK	337	266	1081	13	0	1	12
PLYMOUTH	377	421	2133	19	22	22	19
SUFFOLK	36	0	104	0	0	0	0
WORCESTER	706	2022	2024	28	7	22	13
TOTALS	3170	11,531	16,761	200	133	232	101

Estimated No. Colonies
in Massachusetts
20,000

% A.F.B. 1983 3.70 E.F.B. 2.70 1983
% A.F.B. 1984 1.73 E.F.B. 1.15 1984

PESTICIDE BUREAU
Jeffrey L. Carlson, Chief

The Pesticide Bureau is charged with carrying out the intent of the Massachusetts Pesticide Control Act (Chapter 132B of the General Laws) which was signed into law January, 1978. Among its responsibilities, the Bureau licenses and certifies pesticide applicators, carries out the administrative functions of pesticide product registration, enforces the laws and regulations and provides technical information and assistance to state and municipal agencies as well as the general public.

Outlined below are some of the more important activities of the Bureau in 1984.

REGISTRATION SECTION

The registration section was involved in numerous important registration decisions in FY84. These included the registration of eleven 24-c Special Local Needs Registrations, fifteen experimental use permits (EUP's), classification of seventeen products as Restricted Use Pesticides and the cancellation of the registration of nine other products. In other program activities, the Bureau joined the National Pesticide Inforamtion Retrieval System (NPIRS), a computer based data bank system that contains information describing pesticides products registered by the Environmental Protection Agency as well as participating states.

The following details the registration actions taken by the Pesticide Board Subcommittee.

REGISTRATION ACTION

Section 24-c (Special Local Needs Registration) granted by the Pesticide Board Subcommittee.	11*

(*Five of the 24-c registrations indicated are modifications of federally accepted registration. Additional requirements beyond those which were accepted by the federal government were required as a condition of registration in Massachusetts)

Section 24-c's Denied	3
Experimental Use Permits (EUP's) Granted by Subcommittee	15
Additions to State Restricted Use List	18
Products Denied Re-Registration	8

ENFORCEMENT SECTION

The enforcement program activities were highlighted by the settlement of two civil complaints resulting in fines of over $12,000 and expansion of our inspection staff to three Senior Inspectors of Hazardous Substances and Pesticides and one Supervisory Inspector.* The following summarizes the enforcement activities during FY84.

INSPECTIONS & INVESTIGATIONS

Establishment Inspections

Restricted Dealers	12
Market place	13
Producer	10
Imports/Exports	1

Use/Misuse Investigations

Agricultural	5
Non-Agricultural	25

Summary of Violations Cited by Administrative Order

Misuse of a pesticide	8
Non-licensed applicator	13
Failure to keep adequate records	9
Use of non-registered pesticides	3
Distribution of non-registered pesticides	2
Potential for causing unreasonable adverse effects	2

Other Actions

License suspension	12
License denied	1

As part of the Bureau's Groundwater monitoring program, 73 Administrative Orders were issued prohibiting the use of Temik (aldicarb) within 1,000 feet of public or private wells. Temik is an insecticide used on potatoes to control Colorado potato beetles.

* The Supervisory Inspector Position and one Senior Inspector Position were not filled in FY84.

CERTIFICATION AND TRAINING SECTION

1984 was the last year for applicators, certified in 1980 or before, to satisfy credit requirements for re-certification. This resulted in an increase in examinations taken and in the number of applicators attending training programs.

Regulations promulgated in July 1983 required that all applicators certified in Termite and Structural Pest Control attend a comprehensive training program on the application of termiticides. The Bureau entered into a cooperative agreement with the Cooperative Extension Service to provide the required training which was provided to nearly over 400 applicators.

The following summarizes the examinations and training activities for FY84.

ACTIVITY	
Examinations Taken	2,232
Training Sessions Approved	141
Applicator Licenses Issued	2,299
Dealer Licenses Issued	123
Commercial Certifications Issued	2,287
Private Certifications Issued	1,759

NEW PROGRAM INITIATIVES

The Bureau has secured funding to support research and implementation of Integrated Pest Management Programs (IPM) in Massachusetts. The funds which total $85,000 will be used to support the University of Massachusetts, Amherst, IPM Program and will be earmarked for programs in potatoes, sweet corn, herbicide use on railroad layouts and calibration of equipment.

The Bureau is committed to IPM as a long term solution to problems associated with agriculture in an urban environment. In particular, reduction of the overall pesticide load on the environment and use of those products representing the least environmental risk will lead towards minimizing groundwater contamination and exposure from pesticide drift.

In cooperation with Pesticide Programs in Vermont and New Hampshire, the Bureau released a Public Service Announcement on Homeowner Pesticide Use to regional television stations. The major theme of the 30-second spot is to educate the public to READ THE LABEL on pesticide containers. In addition, the Bureau produced and distributed a pamphlet on Pesticide Safety for Homeowners.

GROUNDWATER MONITORING

The Bureau coordinated a comprehensive groundwater monitoring program for the pesticide Temik and also cooperated with the Department of Environmental Qualaity Engineering in carrying out a program designed to identify Ethylene Dibromide contamination in Western Massachusetts wells.

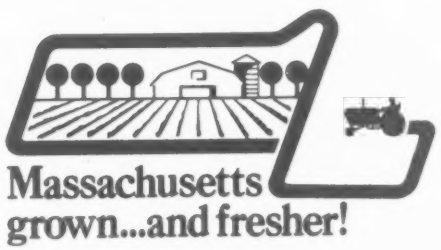
In response to the data generated in the Temik monitoring program, the Bureau severely restricted the use of Temik near public or private wells; specifically the Bureau ordered farmers not to apply Temik within 1,000 feet of public or private wells.

The Bureau has secured additional funding in the amount of $60,000 to support additional groundwater monitoring work and the granting of positions for two new technical staff for the registration program. Prevention of groundwater contamination through comprehensive evaluations is made in the registration process; implementation of IPM strategies and environmental monitoring is one of the highest priorities for the Bureau.

BUREAU PERSONNEL, REVENUE AND APPROPRIATIONS

The Pesticide Bureau Budget for FY84 totaled $340,000 with $140,000 from Federal Grant Funds which included $85,000 in funds to support the pesticide analytical laboratory at the University of Massachusetts Medical Center, Worcester. Revenues collected from licenses, exams and product registration amounted to approximately $140,000.

Personnel assigned to the Bureau included a Bureau Chief, 2 Inspectors, 1 Registration Specialist, 1 Entomologist, 1 Certification & Training Coordinator, and 3 clerks.



STATE RECLAMATION AND MOSQUITO CONTROL BOARD

Lewis F. Wells, Jr., Chairman
James L. Dallas, Member
Gilbert A. Bliss, Member
Elizabeth M. Costello, Secretary
Mark S. Buffone, Entomologist

MOSQUITO NOTES

Although precipitation was above normal early in 1984, the mosquito season was slow to start. Cold spring temperatures and the absence of the warm rays of the sun kept water temperatures low. As a result, larval development (immature mosquitoes) was somewhat delayed. In addition, the blizzard of "84" (March 29, 1984) probably interfered with the normal pace of growth and most likely induced mortality among the earliest hatched mosquito species. Nonetheless, late spring conditions reversed long enough to stimulate hatching of late mosquito species. Consequently, mosquito larvae were found throughout the state in woodland pools, isolated pools of water scattered throughout flood plains, flooded stump holes, and flooded fresh and saltwater marsh edges. Invariably, many of these larvae succeeded in maturing to hungry winged female adults to once again interfere with our many outdoor activities.

In the main, populations of nuisance mosquitoes were variable throughout the Commonwealth and ranged from low to moderate depending on the locality. Overall, calls for mosquito control services were down during 1984 compared to 1983 but the potential of Eastern Encephalitis still remained a viable threat in 1984.

EASTERN ENCEPHALITIS

As reported in 1983, it appeared that 1984 would be a year of higher than average risk from Eastern Encephalitis (EE), an illness caused by a virus maintained by wild birds and transmitted by mosquitoes. Consequently, the State Department of Public Health issued a bulletin to Massachusetts Health Officers in February. In part, this bulletin stated "Health Officers in municipalities lying within the traditional areas of risk should advise municipal selectmen and administrators that local budget reserves for mosquito control would be justified by health protection considerations going beyond 'nuisance control' issues."

It was agreed that the period of increased risk would start in late July, or early August. Therefore, communication and public information between the State Department of Public Health, State Reclamation and Mosquito Control Board and the public was increased to stay alert during this period.

As the mosquito season progressed, the expected appearance of the virus never really became apparent until late summer. The mosquitoes that amplify the virus among wild birds living in freshwater swamp area were low in numbers in the spring. The expected amplification cycle never developed in the swamp areas. The unusually high amounts of precipitation in June that caused major flooding in the Commonwealth led to a build-up in certain mosquito species compared to 1983 but not enough to create the anticipated earlier appearance of the disease this year.

As the season continued, the State Department of Public Health closely monitored the mosquito population for signs of virus and the organized mosquito control projects supervised by the State Reclamation and Mosquito Control Board provided important information on the numbers and types of mosquitoes via surveys in eastern Massachusetts.

Although the anticipated appearance of EE had been delayed, there were some indirect biological indications suggesting that mosquito control efforts not be slackened. The mosquito that amplifies the virus among wild birds was building up to large numbers and the appearance of large amounts of Highland J virus (a non-infectious virus considered to precede the isolation of EE virus) was evident in the traditional endemic areas of Bristol and Plymouth Counties. Therefore, monies earmarked to supplement mosquito control programs in 1984 were allocated to the Bristol and Plymouth County Mosquito Control Projects. These funds were the result of an initiative led by legislators in Bristol and Plymouth Counties for the purposes of intensification of mosquito control to protect the public. The application of funds was coordinated through the State Reclamation and Mosqutio Control Board. This year two human cases of EE have been confirmed. A six year old girl from Framingham, Massachusetts contracted the disease in August but Massachusetts health officials believe the infective mosquito bite was aquired while the little girl was on vacation at the New Jersey shore. During this time period, EE virus activity was evident in New Jersey. A sixty year old woman from Foxboro, Massachusetts contracted the disease late in the mosquito season this year. This case is more typical of the first year of a multicycle appearance of Eastern virus.

Since 1984 did not fit the usual historically characteristic pattern for a third year of Eastern virus, it could be speculated that 1985 may be a year of risk relative to Eastern Encephalitis.

NEW MOSQUITO CONTROL MEMBERSHIP

During 1984, many municipalities expressed interest to join existing regional mosquito control projects.

Mosquito control is a task that is best handled by well organized programs that focus their efforts to reduce mosquito pest problems over relatively large areas. In addition, public interest and support are essential to the success of the mosquito control campaign. This year the municipalities of Marshfield, Watertown, and Weymouth became new members of the Plymouth County, East Middlesex County and Norfolk County Mosquito Control Projects. Also, towns such as North Reading, Reading, Wakefield, Winchester, and Woburn have considered joining the East Middlesex County Control Project in 1984. Membership of any municipality is contingent upon adequate, financial support, documentation of municipal majority vote for such membership, and approval of the State Reclamation and Mosquito Control Board.

GENERIC ENVIRONMENTAL IMPACT REPORT

The State Reclamation and Mosquito Control Board led an initiative to aquire funding from the legislature to prepare a generic environmental impact report relative to mosquitoes and the Commonwealth. As a result, funds in the amount of $120,000 dollars were made available to prepare the above mentioned document. Immediately, an Environmental Notification Form (ENF) was submitted to provide the Secretary of Environmental Affairs and the general public notice of the potential impacts of mosquito control activities in the state.

A notice of intent was printed in five major newspapers as required by law. In addition, four separate meetings took place statewide to allow the public to comment on the Environmental Notification Form.

For this project, a Citizens Advisory Committee (CAC) has been established pursuant to the Massachusetts Environment Protection Agency (MEPA) regulations to assist both the State Reclamation and Mosquito Control Board and MEPA in finalizing a scope and in reviewing data prior to publication of a final impact report.

Although the CAC Committee has met several times this year and has proposed a scope, a final scope has not been issued by the Secretary of Environmental Affairs. It is anticipated that a final scope will be issued before the end of 1984.

Once a final scope is issued, the procedure for selecting a contractor will begin and it is expected that a impact report will be prepared by the end of 1985.

DO WHAT WE CAN, SUMMER WILL HAVE ITS FLIES,

IF WE WALK IN THE WOODS, WE MUST FEED

MOSQUITOES.

Ralph Waldo Emerson

Essays

The Annual Report of the Massachusetts Department of Food and Agriculture was edited by Janet Christensen and Diane Baedeker of the Department.

CAPTIONS

Cover Photo--4th and 5th grade students at the Horace Mann Laboratory School at Salem State College, Salem, Massachusetts, learn about the commodities produced in the state's different counties during the Massachusetts Agriculture in the Classroom project field testing.

FRONT INSIDE COVER

Left Column (top to bottom)

1. Exhibit at celebration of 100th APR farm--the Bolton-Crest Farm in South Deerfield. May 7, 19[illegible].

2. Packing zucchini squash at Tom Zigmont's TEE-ZEE Farm in Hatfield during a produce buyers' farm tour.

3. Craig Richov, Senior Land Use Planner for the Department of Food and Agriculture APR Program at a State House exhibit sponsored by Berkshire County.

4. Essex County 4-H members shearing sheep at the Topsfield Fair.

Right Column (top to bottom)

1. Commissioner Frederic Winthrop, Jr. and Governor Michael S. Dukakis at the ceremonies commemorating the 100th APR farm, the Bolton-Crest Farm in South Deerfield.

2. Kurt Wolter harvesting carrots at John Bauer Farm, South Deerfield.

3. (left to right) Maureen McCarthy of the Department of Food and Agriculture, Anneli Johnson, Mass. Federation of Farmers' Markets, and Bill Chestna of Three Rivers Farm at the Mission Hill Farmers' Market in Roxbury.

4. Students at the Horace Mann Laboratory School at Salem State College spinning Massachusetts produced wool, a project during "Massachusetts Agriculture in the Classroom" field testing.

BACK INSIDE COVER

Left Column (top to bottom)

1. Mark Hopf (center) of M&T Farm in Hatfield, with a new variety of trellis tomatoes, the "Jet Star", William Starzec, Assistant Commissioner of Agriculture (right) and William Boyle, farm owner. The M&T Farm was one of several vegetable farms in the western part of the state visited by produce buyers on a tour organized by the Department.

2. John Bauer of South Deerfield explaining his farm operation during the produce buyers' tour.

3. (left to right) Cindy Lesiczka and Pam Srybny of Wally's Vegetable Farm, Haverhill, at Copley Square Farmers' Market, Boston.

Right Column (top to bottom)

1. (left to right) Maple producers Daniel and Jessie Krug of Westhampton and Karin Cook of Worthington at the June Dairy Festival on the Boston Common.

2. Beekeeper Lynne Lees explaining the honeymaking process to visitors at the June Dairy Festival.

3. Governor Michael Dukakis proclaiming August "Vegetable Month" in Massachusetts. (left to right) R. Alden Miller, Regional Vegetable Sepcialist from Worcester County Extension Service, Leslie Wilson of Wilson Farms, Lexington, Guy Paris and Diane Baedeker, Massachusetts Department of Food and Agriculture, and Alan Wilson, also Wilson Farms in Lexington.